CURRICULUM VITAE

Emilio Hernández García

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PERSONAL DATA

FAMILY NAMES: Hernández-García
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BIRTH DATE: 14/April/1963

ORGANISM: Spanish Research Council (C.S.I.C.)
CENTER: Institute for Cross-Disciplinary Physics and Complex Systems (IFISC)
(Joint Research Center CSIC-University of the Balearic Islands)
DEPARTMENT: Complex Systems
POSITION: Research Professor, since 22 October de 2001.
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IFISC - Instituto de Física Interdisciplinar y Sistemas Complejos
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RESEARCH LINES

Nonlinear Dynamics, Complex Systems, Statistical Physics, Spatiotemporal Chaos, Pattern Formation, Lagrangian Chaos and Transport in Fluids, Applications to Optical Systems, Ocean Dynamics, and Biological Modelling.

ACADEMIC DEGREES

'Licenciado' in Physics, University of Barcelona, June 1986.

PhD in Physics, University of the Balearic Islands, February 1990.
Thesis Advisor: Prof. Maxi San Miguel.

PREVIOUS POSITIONS:

1984-85	Collaboration fellowship. Theoretical Physics Department, University of Barcelona.
January 1987-September 1989	PFPI predoctoral grant. Physics Department, University of the Balearic Islands
October 1989-September 1991	Teaching Assistant. Physics Department, University of the Balearic Islands.
September 1990-September 1991	Research Associate. Center for the Physics of Materials and Department of Physics, McGill University, Montreal, Canada.
October 1991-June 1993	Associate Professor of Condensed Matter Physics (interino). Physics Department, University of the Balearic Islands.
June 1993-October 2001	Associate Professor of Condensed Matter Physics. Physics Department, University of the Balearic Islands.
October 2001-June 2007	CSIC Research Professor. Mediterranean Institute for Advanced Studies (IMEDEA) Department of Cross-Disciplinary Physics CSIC-University of the Balearic Islands.

PARTICIPATION IN RESEARCH PROJECTS

1. *Aplicación de la metodología de los procesos estocásticos al estudio de fluctuaciones y transiciones en sistemas físicos.*
   University of the Balearic Islands, University of Barcelona, Universidad de Cantabria.
   Project CAICyT 361/84. 1985-1987.
   Principal Investigator : M. San Miguel.

2. *Cinética de transiciones de fase.*
   University of the Balearic Islands, University of Barcelona, Temple University (Philadelphia), Rutgers University (New Jersey), Courant Institute (New York).
   Join Spain-USA Commitee, CCB 8402 025. 1985-1987.
   Spanish Principal Researcher: J. Marro

3. Collaboration in *Dynamics of Nonlinear Optical Systems.*
   Project ST2J-0187-X-X(TT), CEE. 1987-1989.
   Spanish Principal Researcher: M. San Miguel.

4. *Mecánica Estadística de sistemas fuera del equilibrio: Dinámica de transiciones y otros procesos dinámicos.* University of the Balearic Islands
   Project PB86-0534, DGICyT. 1987-1990.
   Principal Investigator : M. San Miguel.

5. *Transient dynamics and pattern formation.*
   University of the Balearic Islands, Florida State University, McGill University (Montreal).
   Project CRG 890482, NATO Scientific Office,
   Program *Patterns, Order, and Chaos.* 1989-1993.
   Spanish Principal Researcher: M. San Miguel.

6. Proyecto de Investigación Conjunta University of the Balearic Islands, Universidad de Cantabria, Centro Atómico Bariloche (Argentina), Universidad de Córdoba (Argentina).
   Programa de Cooperación con Iberoamérica, Ministerio de Educación y Ciencia.
   1989-1990.
   Spanish Principal Researcher: M. San Miguel.

7. *Complexity and Chaos in Quantum Optics*.
   Project Science 89300424, CEE. 1989-1991.
   Principal Investigator University of the Balearic Islands: M. San Miguel.

8. *Problemas dinámicos en la formación de estructuras espaciales en sistemas complejos*.
   University of the Balearic Islands
   Project PB89-0424, DGICyT. 1990-1993.
   Principal Investigator : M. San Miguel.

9. *Complexity and Chaos in Quantum Optics*.
   Project Science SC1*CT90-0478, CEE. 1991-1993.
   Principal Investigator University of the Balearic Islands: M. San Miguel.

10. Proyecto de Investigación Conjunta Universidad de Cantabria, University of the Balearic Islands, Centro Atómico Bariloche (Argentina), Universidad de Córdoba (Argentina).
    Programa de Cooperación con Iberoamérica, Ministerio de Educación y Ciencia.
    1991-1993.
    Spanish Principal Researcher: M. Rodríguez.

11. *Non-Classical Light*.
    Project ERB4050PL920887, Program *Human Capital and Mobility*, CEE
    (15 participant institutions). 1993-1995.
    Principal Investigator University of the Balearic Islands: M. San Miguel.

12. *Dinámica espacio-temporal de sistemas fuera del equilibrio*.
    University of the Balearic Islands, CSIC (IEA, Baleares)
    Project PB92-0046-C02-02, DGICyT. 1993-1994.
    Principal Investigator University of the Balearic Islands: O. Piro.

13. *Modelización, simulación y caracterización de dispositivos para comunicaciones ópticas por fibras*.
    University of the Balearic Islands, Universidad de Cantabria, CSIC (IEM, Madrid), Universidad Politécnica de Madrid.
    Project TIC 93-0744-C04-01, CICyT. 1993-1994.
    Principal Investigator University of the Balearic Islands: M. San Miguel.

14. *Gigahertz and picosecond optics in semiconductor laser devices*.
    Project CHRX-CT94-0594, Program *Human Capital and Mobility*, European Union.
    (6 participant institutions). 1994-1996.
    Principal Investigator University of the Balearic Islands: M. San Miguel.

15. *Física estadística, fenómenos no-lineales, y sus aplicaciones*.
    University of the Balearic Islands.
    Project PB94-1167, DGICyT. 1995-1999.
    Principal Investigator : M. San Miguel.

16. *Fluctuaciones, caos, y leyes de escala en la dinámica de sistemas no-lineales*.
    University of the Balearic Islands.
    Project PB94-1172, DGICyT. 1995-1997.
    Principal Investigator : R. Toral.

17. *Caracterización y Dinámica de estructuras oceanográficas coherentes físicas y biológicas*.
    Instituto Mediterráneo de Estudios Avanzados (IMEDEA), Instituto de Ciencias del Mar de Barcelona.
    Project MAR95-1861, CICyT. 1996-1998.
    Principal Investigator : **Emilio Hernández-García**.

18. *Quantum Structures*
    European TRM Network ERB4061 PL95-1260, European Union
    (7 participant institutions). 1996-1999.
    Principal Investigator University of the Balearic Islands: M. San Miguel.

19. *Pattern formation, defects, and fronts in nonequilibrium systems.*
Integrated Action Spain-Germany(DGICyT) HA 1995-0112. 1996.
Principal Investigator University of the Balearic Islands: M. San Miguel.

20. Ayuda de infraestructura IN97-0457 del Programa Nacional de Ciencia y Tecnología Marinas (CICYT) para la adquisicion de un ordenador multiprocesador.
Instituto Mediterráneo de Estudios Avanzados (IMEDEA). 1998.
Principal Investigator : **Emilio Hernández-García**.

21. *Dinámiques no lineals d'autoorganització espai-temporal*,
Project 1997XT 00003, Program Ajut per al desenvolupament i consolidació de xarxes temátiques de la Generalitat de Catalunya.
8 InstitucionesParticipantes. 1997-1999.
Principal Investigator : F. Sagués.

22. *Variabilidad oceánica de alta frecuencia y sus implicaciones en el transporte de propiedades físicas y biológicas.*
Instituto Mediterráneo de Estudios Avanzados (IMEDEA), Instituto de Ciencias del Mar de Barcelona.
Project MAR98-0840, CICyT. 1998-2001.
Principal Investigator : **Emilio Hernández-García.**

23. *Satellite-based Ocean Forecasting* (SOFT).
Project EVK3-2000-00561, Program *Energy, Environment, and Sustainable Development*, V Framework Program, European Union. 2001-2003.
5 participant institutions.
Coordinator: J. Tintoré.

24. *Quantum Imaging* (QUANTIM).
Project IST-2000-26019, Program *Information Society Technologies*, V Framework Program, European Union. 2001-2003. Principal Investigator IMEDEA: M. San Miguel.

25. *Cooperación y fenómenos no lineales en sistemas complejos extendidos* (CONOCE).
Instituto Mediterráneo de Estudios Avanzados (IMEDEA).
Project BFM2000-1108, Ministerio de Ciencia y Tecnología. 2001-2004.
Principal Investigator : M. San Miguel.

26. Xarxa Temàtica de *Dinámiques no lineals d'autoorganització espai-temporal*,
Project 2000XT 0005. Direcció General de Recerca de la Generalitat de Catalunya.
8 participant institutions. 2001-2002.
Principal Investigator : J.M. Sancho.

27. *Procesos de transporte, campos de velocidades y análisis de estructuras oceánicas mediante imágenes de satélite (IMAGEN).*
Instituto Mediterráneo de Estudios Avanzados (IMEDEA)
Project REN2001-0802-C02-01/MAR, MCyT. 2001-2004.
Principal Investigator and Coordinator: **Emilio Hernández-García.**

28. *Grupo de investigación competitivo de Física Interdisciplinar.*
Subvención del Govern Balear (2002-2005).
Principal Investigator : M. San Miguel.

29. *EXYSTENCE: The Network of Excellence for Complex Systems*
Network of Excellence IST-2001-32802, Subprogram FET (Future and Emerging Technologies). Program Information Society Technologies, V Framework Program, European Union. 2002-2004.
Principal Investigator IMEDEA: M. San Miguel.

30. *Dinàmiques no lineals d'autoorganització espaciotemporal.* Xarxa temàtica de la Generalitat de Catalunya. (2003-2004). Principal Investigator IMEDEA: M. San Miguel.

31. *Dynamical systems approach to ocean transport.*
Integrated Action Spain-Germany(MCyT) HA 2003-0146. 2004-2006.
Principal Investigator : **Emilio Hernández-García.**

32. *Cooperación y fenómenos no lineales en sistemas complejos extendidos 2* (CONOCE2).
Instituto Mediterráneo de Estudios Avanzados (IMEDEA).
Project FIS2004-00953, Ministerio de Educación y Ciencia. 2004-2007.
Principal Investigator : M. San Miguel.

33. *BIOSIM: Biosimulation, a new tool in drug development.* Network of Excellence (LSHB-CT-2004-005137), VI Framework Program, European Union. Priority 1.1 "Genomics and Biotechnology for Health" (2004-2009). Coordinator: Erik Mosekilde (Technical University of Denmark). Principal Investigator IMEDEA: R. Toral.

34. *Chemical or biologically interacting substances transported by chaotic flows.*
Integrated Action Spain-Italy(MEC) HI2004-0144. 2005-2006.
Principal Investigator : Cristóbal López.

35. *THRESHOLDS: Thresholds of environmental sustainability* Integrated Project (Contract 003933), VI Framework Program, European Union. Priority 6.3 "Global Change and Ecosystems" (2005-2008). Coordinator: C. Duarte (RRNN-IMEDEA). Responsible workpackage S2WP1 'Regime modelling': **E. Hernández-García**.

36. *EUR-OCEANS: European Network of Excellence for Ocean Ecosystems analysis.* Network of Excellence (Contract 511106-2), VI Framework Program, European Union. Priority 6.3 "Global Change and Ecosystems" (2005-2008). Principal Investigator IMEDEA: C.M. Duarte.

37. *Dinàmiques no lineals d'autoorganització espaciotemporal* (Ref. 2004XT 00013). Xarxa temàtica del Departament d'Universitats, Recerca i Societat de la Informació de la Generalitat de Catalunya. (2005-2006). Principal Investigator Jordi García-Ojalvo. Principal Investigator IMEDEA: R. Toral.

38. *Grupo de investigación competitivo de Física Interdisciplinar* (Grupo de Excelencia Coherente).
Subvención del Govern Balear (2006-2009).
Principal Investigator : M. San Miguel.

39. *Ecological Diversity and Evolutionary Networks (EDEN)*
Project 043251, Program *NEST: New and Emerging Science and Technologies*, Pathfinder Call in *Complexity*, VI Framework Program, European Union. 2007-2009.
4 participant institutions.
Coordinator: **E. Hernández-García**.

40. *Herramientas avanzadas para el estudio de la dinámica oceánica y la gestión medio-ambiental (OCEANTECH)*
Proyecto Intramural de Frontera (PIF06-059), CSIC (2007-2008). Principal Investigator Antonio M. Turiel (ICM). Principal Investigator IMEDEA: Cristóbal López

41. *Transport in chaotic environmental flows.*
Integrated Action Spain-Hungary(MEC) HH2006-0031. 2007-2009.
Principal Investigator : Cristóbal López.

42. *Física Interdisciplinar de Sistemas Complejos* (FISICOS).
IMEDEA/IFISC.
Project FIS2007-60327, Ministerio de Educación y Ciencia. 2007-2014.
Principal Investigator : M. San Miguel.

43. Acción Complementaria *Ecological Diversity and Evolutionary Networks (EDEN)*
FIS2007-29087-E. Ministerio de Educación y Ciencia. 2007-2010.
Principal Investigator : **E. Hernández-García**.

44. Cooperación y Emergencia en Sistemas Complejos (A/013666/07).
Proyecto de Cooperación Internacional España-Argentina de la AECI, Ministerio de Asuntos Exteriores. 2007-2008.
Principal Investigator Spain: H. Wio (IFCA).

45. Cooperación y Emergencia en Sistemas Complejos (A/018685/08).
Proyecto de Cooperación Internacional España-Argentina de la AECI, Ministerio de Asuntos Exteriores. 2008-2009.
Principal Investigator Spain: H. Wio (IFCA).

46. Subvenció per incorporar personal investigador al sistema d'innovació de les Illes Balears.
Govern de les Illes Balears. 2009-2011.
Principal Investigator : **E. Hernández-García**. Postdoc: Els Heinsalu.

47. Impact of Turbulence on Biological Dynamics (TurBiD). Proyecto Intramural Especial CSIC (200450E644). 2009-2012.
Principal Investigator : **E. Hernández-García**.

48. Genética paisagistica duma lagoa costeira; uma abordagem empirica e de modelação usando a erva marinha Zostera noltii in Ria Formosa (PTDC/MAR/099887/2008).
Fundação para a Ciência e a Tecnologia (FCT, Portugal). 2010-2013.
Principal Investigator : Filipe Alberto (CCMAR, Faro).

49. *Grupo de investigación muy competitivo de Física Interdisciplinar.*
Subvención del Govern Balear (2011-2014).
Principal Investigator : M. San Miguel.

50. Learning about Interacting Networks in Climate (LINC). Marie Curie Initial Training Network 289447. VII Framework Program, European Union. 2011-2015.
Principal Investigator : Cristina Masoller (UPC). Principal Investigator IFISC: **Emilio Hernández-García**.

PUBLICATIONS

Book

- Z. Neufeld and E. Hernández-García
  Chemical and Biological Processes in Fluid Flows: A Dynamical Systems Approach .
  Imperial College Press, 30 September 2009. Copyright 2010.
  ISBN: 978-1-86094-699-8 / 1-86094-699-2 (ebook: 978-1-84816-178-8 / 1-84816-178-6)

Edited work

- S. Wiggins, A. M. Mancho, E. Hernández García, C. López, A. Turiel, and E. García Ladona, Editors.
  Special Issue on *Nonlinear Processes in Oceanic and Atmospheric Flows*.
  Nonlinear Processes in Geophysics, 2010.
  http://www.nonlin-processes-geophys.net/special_issue103.html

Papers in Journals

1. E. Hernández-García, L. Pesquera, M.A. Rodríguez, M. San Miguel
   First-passage time statistics: Processes driven by Poisson noise.
   Physical Review **A 36**, 5774-5781 (1987)

2. M. Aguado, E. Hernández-García, M. San Miguel
   Dye-laser fluctuations: Comparison of colored loss-noise and white gain-noise models.
   Physical Review **A 38**, 5670-5677 (1988)

3. E. Hernández-García, L. Pesquera, M.A. Rodríguez, M. San Miguel
   Random walk in dynamically disordered chains: Poisson white noise disorder.
   Journal of Statistical Physics **55**, 1027-1052 (1989)

4. M.A. Rodríguez, E. Hernández-García, L. Pesquera, M. San Miguel
   Diffusion in random chains: Perturbative expansion around the effective-medium approximation.
   Physical Review **B 40**, 4212-4215 (1989). Rapid Communication.

5. E. Hernández-García, M.A. Rodríguez,M. San Miguel
   Dynamic disorder, renewal, and anomalous diffusion.
   Physical Review **B 40**, 9056-9060 (1989).

6. E. Hernández García, M.O. Cáceres, M. San Miguel
   Characterizing strong disorder by the divergence of a diffusion time.
   Physical Review **A 41** , 4562-4565 (1990). Rapid Communication.

7. E. Hernández-García, M.O. Cáceres
   First-Passage Time statistics in disordered media.
   Physical Review **A 42**, 4503-4518 (1990).

8. E. Hernández-García, M.A. Rodríguez, L. Pesquera, M. San Miguel
   Transport Properties for Random Walks in disordered one-dimensional media: Perturbative calculation around the effective-medium approximation.
   Physical Review **B 42**, 10653-10672 (1990).

9. E. Hernández-García, R. Toral, M. San Miguel
   Intensity correlation functions for the colored gain-noise model of dye lasers.
   Physical Review **A 42**, 6823-6830 (1990).

10. J. Viñals, E. Hernández-García, R. Toral, M. San Miguel
    Numerical study of the dynamical aspects of pattern selection in the stochastic Swift-Hohenberg equation in one dimension.
    Physical Review **A 44**, 1123-1133 (1991).

11. E. Hernández-García, N.B. Abraham, M. San Miguel, F. de Pasquale
Frequency selection and transient dynamics in single-mode lasers with optical feedback.
Journal of Applied Physics **72**, 1225-1236 (1992).

12. E. Hernández-García, M. Grant
Fluctuations and overlap distributions in the dynamics of first-order phase transitions.
Journal of Physics **A 25**, L1355-L1362 (1992).

13. E. Hernández-García, M. San Miguel, R. Toral, J. Viñals
Noise and pattern selection in the one-dimensional Swift-Hohenberg equation.
Physica **D 61**, 159-165 (1992).

14. E. Hernández-García, T. Ala-Nissila, M. Grant
Interface roughening with a time-varying external driving force.
Europhysics Letters **21**, 401-406 (1993).

15. A. Amengual, E. Hernández-García, M. San Miguel
Ordering and finite-size effects in the dynamics of transient patterns.
Physical Review **E 47**, 4151-4160 (1993).

16. E. Hernández-García, J. Viñals, R. Toral, M. San Miguel
Fluctuations and pattern selection near an Eckhaus instability.
Physical Review Letters **70**, 3576-3579 (1993).

17. E. Hernández-García, C.R. Mirasso, K.A. Shore, M. San Miguel
Turn-on jitter of external cavity semiconductor lasers.
IEEE Journal of Quantum Electronics **30**, 241-248 (1994).

18. P.A. Pury, M.O. Cáceres, E. Hernández-García
First-Passage time and the fluctuation of the quenched disorder in biased media.
Physical Review **E 49**, R967-R970 (1994).

19. M. San Miguel, A. Amengual, E. Hernández-García
Transient pattern dynamics and domain growth.
Phase Transitions **48**, 65-83 (1994).

20. I.S. Graham, E. Hernández-García, M. Grant
Damage spreading during domain growth.
Physical Review **E 49**, R4763-4766 (1994).

21. R. Montagne, A. Amengual, E. Hernández-García, M. San Miguel
Multiple front propagation into unstable states.
Physical Review **E 50**, 377-385 (1994).

22. C.R. Mirasso, E. Hernández-García
Effects of current modulation on timing jitter of single-mode semiconductor lasers in short external cavities.
IEEE Journal of Quantum Electronics **30**, 2281-2286 (1994).

23. C.R. Mirasso, E. Hernández-García, J. Dellunde, M.C. Torrent, J.M. Sancho
Current modulation and transient dynamics of single-mode semiconductor lasers under different feedback conditions.
IEE Proceedings-Optoelectronics, **142**, 17-22 (1995).

24. J. Dellunde, M.C. Torrent, C.R. Mirasso, E. Hernández-García, J.M. Sancho
Analytical calculations of switch-on time and timing jitter in diode lasers subjected to optical feedback and external light injection.
Optics Communications **115**, 523-527 (1995).

25. J. Dellunde, C.R. Mirasso, M.C. Torrent, J.M. Sancho, E. Hernández-García.
Transient dynamics of a single-mode semiconductor laser subjected to both optical feedback and external light injection.
Optical and Quantum Electronics **27**, 755-760 (1995).

26. J. Revuelta, L. Pesquera, E. Hernández-García, and C.R. Mirasso.
Effect of Phase-conjugate optical feedback on turn-on jitter in laser diodes.
Optics Letters **20**, 2213-2215 (1995).

27. A. Amengual, D. Walgraef, M. San Miguel, and E. Hernández-García
Wave-unlocking transition in resonantly coupled complex Ginzburg-Landau equations.
Physical Review Letters **76** 1956-1959 (1996).

28. R. Montagne, E. Hernández-García, M. San Miguel
Winding number instability in the phase-turbulence regime of the Complex Ginzburg-Landau Equation.
Physical Review Letters, **77**, 267-270 (1996).

29. R. Montagne, E. Hernández-García, and M. San Miguel
Numerical study of a Lyapunov functional for the complex Ginzburg-Landau equation.
Physica **D 96**, 47-65 (1996).

30. A. Amengual, E. Hernández-García, R. Montagne, and M. San Miguel
Synchronization of Spatiotemporal Chaos: The regime of coupled Spatiotemporal Intermittency.
Physical Review Letters **78** 4379-4382 (1997).

31. R. Montagne, E. Hernández-García, A. Amengual, and M. San Miguel
Wound-up phase turbulence in the complex Ginzburg-Landau equation.
Physical Review **E 56** 151-167 (1997).

32. J.H.E. Cartwright, E. Hernández-García, O. Piro
Burridge-Knopoff Models as Elastic Excitable Media.
Physical Review Letters, **79**, 527-530 (1997).

33. A. Álvarez, E. Hernández-García, J. Tintoré
Noise-sustained currents in quasigeostrophic turbulence over topography.
Physica **A 247**, 312-326 (1997).

34. E. Hernández-García, A. Amengual, R. Montagne, M. San Miguel, P. Colet, M. Hoyuelos
Moving pictures.
Europhysics News **29**, 184-187 (1998).

35. A. Álvarez, E. Hernández-García, J. Tintoré
Noise rectification in quasigeostrophic forced turbulence.
Physical Review E **58**, 7279-7282 (1998).

36. V.M. Eguíluz, P. Alstrom, E. Hernández-García, O. Piro
Average patterns of spatiotemporal chaos: A boundary effect.
Physical Review **E 59**, 2822-2825 (1999).

37. C.R. Mirasso, G.H.M. van Tartwijk, E. Hernández-García, D. Lenstra, S. Lynch, P. Landais, P. Phelan, J. O'Gorman, M. San Miguel, and W. Elsässer
Self-pulsating semiconductor lasers: Theory and experiment.
IEEE Journal of Quantum Electronics **35**, 764-770 (1999).

38. A. Álvarez, E. Hernández-García, J. Tintoré
Noise-induced flow in quasigeostrophic turbulence with bottom friction.
Physics Letters **A 261**, 179-182 (1999).

39. M. Hoyuelos, E. Hernández-García, P. Colet, M. San Miguel
Defect-freezing and defect-unbinding in the vector complex Ginzburg-Landau equation.
Computer Physics Communications **121-122**, 414-419 (1999).

40. V.M. Eguíluz, E. Hernández-García, O. Piro, S. Balle
Frozen spatial chaos induced by boundaries.
Physical Review E **60** 6571-6579 (1999).

41. J.H.E. Cartwright, V.M. Eguíluz, E. Hernández-García, O. Piro
Dynamics of elastic excitable media.
International Journal of Bifurcation and Chaos **9**, 2197-2202(1999).

42. V.M. Eguíluz, E. Hernández-García, O. Piro
Boundary effects in the complex Ginzburg-Landau equation.
International Journal of Bifurcation and Chaos **9**, 2209-2214 (1999).

43. E. Hernández-García, M. Hoyuelos, P. Colet, R. Montagne, M. San Miguel
Spatiotemporal chaos, localized structures and synchronization in the vector complex Ginzburg-Landau equation.
International Journal of Bifurcation and Chaos **9**, 2257-2264 (1999).

44. A. Alvarez, E. Hernández-García, J. Tintoré
On the effect of small-scale oceanic variability on topography-generated currents.
Geophysical Research Letters **27**, 739-742 (2000).

45. Z. Neufeld, C. López, E. Hernández-García, T. Tél
Multifractal structure of chaotically advected chemical fields.
Physical Review **E 61**, 3857-3866 (2000).

46. E. Hernández-García, M. Hoyuelos, P. Colet, M. San Miguel
Dynamics of localized structures in vectorial waves.
Physical Review Letters **85**, 744-747 (2000).

47. V.M. Eguíluz, E. Hernández-García, O. Piro
Boundary effects in extended dynamical systems.
Physica A **283**, 48-51 (2000).

48. R. Montagne, E. Hernández-García
Localized structures in coupled Ginzburg-Landau equations.
Physics Letters A **273**, 239-244 (2000).

49. A. Álvarez, C. López, M. Riera, E. Hernández-García, J. Tintoré
Forecasting the SST space-time variability of the Alboran Sea with genetic algorithms.
Geophysical Research Letters **27**, 2709-2712 (2000).

50. C. López, A. Álvarez, E. Hernández-García
Forecasting confined spatiotemporal chaos with genetic algorithms.
Physical Review Letters, **85**, 2300-2303 (2000).

51. C. López, Z. Neufeld, E. Hernández-García, P.H. Haynes
Chaotic advection of reacting substances: Plankton dynamics on a meandering jet.
Physics and Chemistry of the Earth **B 26**, 313-317 (2001).

52. C. López, E. Hernández-García, O. Piro, A. Vulpiani, and E. Zambianchi
Population dynamics advected by chaotic flows: A discrete-time map approach.
Chaos **11**, 397-403 (2001).

53. V.M. Eguíluz, E. Hernández-García, O. Piro
Complex Ginzburg-Landau Equation in the Presence of Walls and Corners.
Physical Review E **64** 036205 (1-10)(2001).

54. Irene Sendiña-Nadal, Vicente Pérez-Muñuzuri, Víctor M. Eguíluz, Emilio Hernández-García, and Oreste Piro
Quasiperiodic patterns in boundary-modulated excitable waves.
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55. Raúl Toral, Claudio R. Mirasso, E. Hernández-García, and Oreste Piro
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5. R. Montagne, E. Hernández-García, and M. San Miguel
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8. E. Hernández-García, T. Ala-Nissilä, P. Colet, M. Dubé, S. Majaniemi
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11. A. Pascual, A. Orfila, A. Álvarez, E. Hernández, D. Gomis, A. Barth, J. Tintoré
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12. E. Hernández-García, C. López, and Z. Neufeld
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13. Alberto Álvarez, Emilio Hernández-García, Joaquín Tintoré
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14. Victor M. Eguíluz, Emilio Hernández-García, Oreste Piro
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15. R. Montagne, Emilio Hernández-García
On some localized solutions of coupled Ginzburg-Landau equations.
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16. E. Hernández-García, C. López
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17. E. Hernández-García, E. A. Herrada, A. F. Rozenfeld, C. J. Tessone, V. M. Eguíluz, C. M. Duarte, S. Arnaud-Haond, and E. Serrão
Evolutionary and Ecological Trees and Networks.
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STAYS ABROAD
(longer than four weeks)

1-30 March 1990: Center for the Physics of Materials and Department of Physics, McGill University, Montreal, Canada. Invited stay.

September 1990-September 1991: Center for the Physics of Materials and Department of Physics, McGill University, Montreal, Canada. Postdoctoral stay.

SEMINARS GIVEN

1. *Tiempos de paso para difusión por ruido de Poisson.*
   Departamento de Física, Universidad Autónoma de Barcelona.
   March 1987.

2. *Difusión en sistemas estática y dinámicamente desordenados.*
   Departamento de Estructura y Constituyentes de la Materia, Universidad de Barcelona.
   2 November 1989.

3. *Anomalous diffusion in random chains.*
   Center for the Physics of Materials, McGill University.
   March 1990.

4. *Propagación múltiple de frentes sobre estados inestables.*
   Departamento de Estructura y Constituyentes de la Materia, Universidad de Barcelona.
   13 January 1994.

5. *Transient pattern formation by multiple front propagation.*
   Center for the Physics of Materials, McGill University.
   July 1994.

6. *Orden y Caos en la Ecuación Vectorial Compleja de Ginzburg-Landau.*
   Departamento de Física Moderna, Universidad de Cantabria.
   14 June 1995.

7. *Wound-up Phase Turbulence in the Complex Ginzburg-Landau Equation*
   Institut für Theoretische Physik und Synergetik, Universität Stuttgart.
   20 December 1996.

8. *Regular and Chaotic Behavior in a Vector Complex Ginzburg-Landau Equation*
   Center for Chaos and Turbulence Studies, Niels Bohr Institute.
   11 July 1997.

9. *Corrientes sostenidas por ruido en flujos geofísicos sobre topografía*
   Instituto de Física, Universidad de la República, Uruguay.
   10 December 1997.

10. *Advección, caos, y la inhomogeneidad de la distribucion del plancton en la superficie del mar*
    Facultad de Ciencias, Universidad de Málaga.
    23 March 1999.

11. *Caos, excitabilitat, transport, i les inhomogeneitats en la distribució de plancton*
    Departament d'Ecologia, Universitat de Barcelona, i Societat Catalana de Biologia.
    7 March 2002.

12. *Chaos and excitability in simple reactive flows*
    Laboratoire de Météorologie Dynamique, École Normale Supérieure, Paris.
    3 April 2002.

13. *Caos, excitabilidad, i las inhomogeneidades en distribuciones de plancton*
Departamento de Física de la Materia Condensada (Universidad de Zaragoza) e Instituto de Ciencia de Materiales de Aragón (Universidad de Zaragoza-CSIC)
25 June 2002.

14. *Caos y excitabilidad en flujos reactivos simples*
Departamento de Matemáticas y Física Aplicadas y Ciencias de la Naturaleza, Universidad Rey Juan Carlos, Móstoles, Madrid.
28 November 2002.

15. *Caos, mescla en fluids, i les inhomegeneïtats en la distribució de plàncton*
Facultad de Ciencias, University of the Balearic Islands. 20 November 2003.

16. *Plankton models in chaotic flows*
Institute for Chemistry and Biology of the Marine Environment, Carl von Ossietzky Universität Oldenburg (Germany). 29 January 2004.

17. *Pattern formation in a model of bugs that live, reproduce, and cluster*
Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos (USA). 6 July 2004.

18. *Pattern formation in a model of bugs that live, reproduce, and cluster*
Institute of Physics and Center for the Dynamics of Complex Systems, Universität Potsdam (Germany). 2 November 2004.

19. *Sobre el uso de algoritmos evolutivos para encontrar leyes a partir de datos: Éxitos y límites*
Instituto de Investigaciones Biomédicas "Alberto Sols" (CSIC-UAM), Madrid. 23 October 2009.

20. *Una ullada a l'entorn: Formes i forces a la natura*
Universitat de les Illes Balears, Conferència de *Física i Vida* dins el cicle "La nostra Ciència de cada Dia". 19 November 2009.

21. *Mirant a l'entorn: Formes i forces a la natura*
Universitat de les Illes Balears, seminari de divulgació dins del *Curs d'Introducció a la Física Interdisciplinar i Sistemes Complexos*. 15 December 2011.

ORAL COMMUNICATIONS IN CONFERENCES

1. *Gain noise in dye lasers: Intensity fluctuations and correlation functions.*
   Workshop on 'Dynamics of Nonlinear Optical Systems'. Santander, October 1988.

2. *Caracterización de desorden fuerte por la divergencia de un tiempo de difusión.*
   III Reunión de Física Estadística, Badajoz, April 1990.

3. *Fluctuations and overlap distributions in the dynamics of non-equilibrium systems.*
   II Twinning of the European Network on 'Complexity and Chaos in Quantum Optics'.
   Nice, February 1992.

4. *Transient pattern dynamics and few mode truncations.*
   III Twinning of the European Network on 'Complexity and Chaos in Quantum Optics'.
   Palma de Mallorca, March 1993.

5. *Crecimiento de superficies rugosas en un campo dependiente del tiempo.*
   V Reunión de Física Estadística.
   El Escorial, May 1993.

6. *Transient pattern formation by multiple front propagation.*
   The Geometry of Forms in Equilibrium and Nonequilibrium Systems.
   St. Jonh's (Canada), July 1994.

7. *Effect of optical feedback and light injection on transient dynamics of single-mode semiconductor lasers.*
   CLEO/Europe-EQEC (paper CTuL4).
   Amsterdam, August 1994.

8. *Regular and Chaotic Behavior in the Vector Complex Ginzburg-Landau Equation.* **Invited conference**
   Chaos: Towards the next century.
   Como (Italy), June 1995.

9. *Una Inestabilidad tipo Eckhaus para Ondas Turbulentas.*
   VII Reunión de Física Estadística.
   Zaragoza, May 1996.

10. *Interfases y Ecuaciones de Fase: el caso de la ecuación de Ginzburg-Landau compleja.*
    Reunión Española sobre Procesos de Crecimiento y Fenómenos Interfaciales.
    Leganés, Madrid, July 1996.

11. *Caos espacio-temporal en ecuaciones complejas de Ginzburg-Landau.* **Invited conference**.
    No-lineal 97.
    Avila, April 1997.

12. *Spatio-Temporal Chaos in the Complex Ginzburg-Landau Equation.*
    Meeting of the Computational Physics Board of the European Physical Society.
    Palma de Mallorca, September 1997.

13. *Noise-sustained currents in geophysical flow over topography.*
    7th Workshop on Instabilities and Nonequilibrium Structures.
    Valparaíso, Chile, December 1997.

14. *Spatiotemporal chaos in the Vector Complex Ginzburg-Landau equation.*
    STATPHYS 20, XX IUPAP International Conference on Statistical Physics.
    Paris, July 1998.

15. *Noise rectification in ocean dynamics.*
    Meeting of the Network *Nonlinear Dynamics of Spatio-temporal Selforganization*, Barcelona, February 1999.

16. *Filaments and multifractals in advected chemicals and planktonic communities.*
    European Science Foundation Study Center on *Transport in the Atmosphere and the Oceans* (TAO).
    Palma de Mallorca, September 1999.

17. *Noise rectification in quasigeostrophic forced turbulence.*
European Science Foundation Study Center on *Transport in the Atmosphere and the Oceans* (TAO). Palma de Mallorca, September 1999.

18. *Spatial structures in relaxing and in excitable plankton models under chaotic advection*
XXV General Assembly of the European Geophysical Society. Nice, France, April 2000.

19. *Ondas, defectos y paredes en la dinámica de medios autooscilantes.* **Invited conference**.
NoLineal2000. Almagro (Ciudad Real). May 2000.

20. *Patchiness, excitability, and nonlinear dynamics in plankton distributions.* **Series of three invited conferences**.
2nd Latin American Summer School on Instabilities and Nonlinear Dynamics: Applications in Natural and Socio-Economical Systems. Valparaíso (Chile). December 2000.

21. *Spatial structures in reacting systems.* **Series of three invited conferences**.
International Summer School on Dynamical Barriers, Stirring and Mixing in Geophysical Flows - Mathematical Models and Applications (GEOMIX 2001). Cargèse (France). August 2001.

22. *Spatial patterns in reacting flows: biological and chemical applications.* **Series of two invited conferences**.
International Summer School on Atmospheric and Oceanic Sciences (ISSAOS 2001): Chaos in geophysical flows. L'Aquila, Italy. September 2001.

23. *Excitable media in open flows.*
Chemical and Biological Activity in Flows (ACTIFLOW Workshop). Dresden, Germany, September 2002.

24. *A reminder on empirical orthogonal function analysis.*
2nd workshop of the EU project SOFT: Satellite-based ocean forecasting. Calanova (Mallorca), October 2002.

25. *Reactive media in open and closed chaotic flows: the case of excitable dynamics.* **Invited conference**.
MEDYFINOL02: XIII Meeting on Nonequilibrium Statistical Mechanics and Nonlinear Physics. Colonia del Sacramento, Uruguay, December 2002.

26. *Excitable dynamics in open chaotic flows.*
European Geophysical Society/American Geophysical Union Joint Assembly, Nice, France, April 2003.

27. *Excitable population dynamics under fluid stirring: Plankton models in open flows.*
2nd International Conference on Mathematical Ecology (AICME II). Alcalá de Henares, September 2003.

28. *Population dynamics in flows: Excitability, persistence, and patterns.* **Invited conference**.
Kolmogorov's Legacy in Physics: One Century of Chaos, Turbulence and Complexity. Trieste, Italy, September 2003.

29. *Clustering and advection in simple models of population dynamics* .
Dynamics Days Europe 2003, Palma de Mallorca, September 2003.

30. *Plankton models in chaotic flows.*
Minisymposium on *Interaction of biological growth and mixing processes in fluids.* Oldenburg (Germany), January 2004.

31. *Searching for manifolds in the Mediterranean sea: Some simple dynamical systems approaches* . **Invited conference**.
London Mathematical Society Meeting on 'Scalar mixing in fluid flows and mappings'. Bristol (United Kingdom), May 2004.

32. *Biological dynamics in stirred fluids: Logistic growth and beyond.* **Invited conference**.
Verhulst 200 on Chaos. Brussels (Belgium), September 2004.

33. *Pattern formation in a model of bugs that live, reproduce, and cluster.* **Invited conference**.
MEDYFINOL04: XIV Meeting on Nonequilibrium Statistical Mechanics and Nonlinear Physics. La Serena, Chili, December 2004.

34. *Nonlinear scenarios for planktonic dynamics in chaotic flows.*
International Cross-Disciplinary Symposium on Physics and Biology. Oslo, Norway, March 2005.

35. *Dinámica de poblaciones en flujos turbulentos: caos, orden y excitabilidad.* **Invited conference**.
FISES2005, XIII Reunión de Física Estadística. Madrid, June 2005.

36. *Excitability Threshold for Plankton in Open Flows.*
1st Annual Assembly of the THRESHOLDS Integrated Project. Madrid, February 2006

37. *Networks of genetic relationship between clonal plants.*
Dynamics on Complex Networks and Applications (DYONET06 2nd week Seminar). Dresden, Germany, February 2006.

38. *Networks of Genetic Similarity in Populations of Clonal Plants.*
Workshop on Social and Ecological Networks, European Conference on Complex Systems (ECCS06). Oxford, United Kingdom, September 2006.

39. *Genetic Similarity and Evolutionary Networks.* **Invited conference**.
MEDYFINOL06: XV Meeting on Nonequilibrium Statistical Mechanics and Nonlinear Physics. Mar del Plata, Argentina, December 2006.

40. *Transport dynamics in the Western Mediterranean: Stretching fields and hyperbolic lines* . **Invited conference**.
Session NP6.01, European Geosciences Union General Assembly 2007. Vienna(Austria), April 2007.

41. *Stretching fields and lines in the transport dynamics of the Western Mediterranean.* **Invited conference**.
Minisymposium on *Mixing in Industry and the Environment*, 6th International Congress on Industrial and Applied Mathematics (ICIAM07). Zürich, (Switzerland), July 2007.

42. *Genetic similarity networks: Weak and strong links in populations and in metapopulations.*
European Conference on Complex Systems (ECCS07). Dresden, Germany, October 2007.

43. *Universal scaling in phylogenetic branching.*
European Conference on Complex Systems (ECCS07). Dresden, Germany, October 2007.

44. *Ecological Diversity and Evolutionary Networks: The EDEN project.*
Showcase of European Complexity Science Projects (CRP Forum). Dresden, Germany, October 2007.

45. *Genetic Similarity Networks in Populations and in Metapopulations.*
Workshop on Dynamics and Evolution of Biological and Social Networks. Palma de Mallorca, Spain, February 2008.

46. *Characterizing ocean processes with finite-size Lyapunov exponents.* **Invited conference**.
Session NP3.01, European Geosciences Union General Assembly 2008. Vienna(Austria), April 2008.

47. *Universal branching in phylogenetic trees.* **Invited conference**
International Conference "Modelling and Computation on Complex Networks and Related Topics", Net-Works 2008. Pamplona, Spain, June 2008.

48. *Species clustering in models of biological evolution.* **Invited conference**.
MEDYFINOL08: XVI Conference on Nonequilibrium Statistical Mechanics and Nonlinear Physics. Punta del Este, Uruguay, December 2008.

49. *Synchronization and stochasticity in circadian oscillators ensembles.*
BioSim workshop on Methodological Challenges for Systems Biology: linking networks, crossing scales. Venice, Italy, 30 March -3 April 2009.

50. *Ocean transport dynamics characterized by stretching fields and lines.*
RTRA-STAE Workshop on Geometrical and multiscale approaches for predictability and analysis of complex data in astrophysics and geophysics. Montaigut-Sur-Save, France, May 2009.

51. *Stretching fields and lines in ocean transport dynamics.* **Invited conference**.
EPSRC Symposium Capstone Conference. Minisymposium on *Lagrangian structure, Lagrangian data.* University of Warwick, United Kingdom, July 2009.

52. *Frigatebirds follow Lagrangian Coherent Structures.*
Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics (LAPCOD) 2009. La Londe-des-Maures, France, September 2009.

53. *Stretching structures from finite-size Lyapunov exponents: their impact across all biological scales.*
Thematic Institute on *Lyapunov analysis: from theory to geophysical applications.* Institut des Systemes Complèxes (ISC-PIF), Paris, France, October 2009.

54. *Stretching fields and lines from finite-size Lyapunov exponents: ocean transport and biological impact.* **Invited conference**.
Workshop on *Exploring Complex Dynamics in High-Dimensional Chaotic Systems: From Weather Forecasting to Oceanic Flows (ECODYC10).* Dresden, Germany, January 2010.

55. *Biological impact of ocean transport: A finite-size Lyapunov characterization*
3rd Conference on Nonlinear Science and Complexity (NSC10). Ankara, Turkey, July 2010.

56. *Savanna-Fire Model: Combined effects of tree-tree establishment competition and spatially explicit fire on the spatial pattern of trees in savannas.*
Emergence and Design of Robustness (ROBUST). Palma de Mallorca, September 2010.

57. *Stretching structures in the ocean surface: transport and biological impacts.* **Invited conference**.
Coherent Structures in Dynamical Systems. Leiden (The Netherlands), May 2011.

Partial list of poster (P), or oral communications presented by <u>a collaborator</u>

1. E. Hernández-García, L. Pesquera, M.A. Rodríguez, M.San Miguel.
Tiempos de paso para difusión por ruido de Poisson. (P)
I Reunión de Física Estadística. Barcelona, April 1987.

2. E. Hernández-García, L. Pesquera, M.A. Rodríguez, M. San Miguel.
Caminos aleatorios en cadenas con desorden dinámico. (P)
II Reunión de Física Estadística. Palma, November 1988.

3. E. Hernández-García, M. Aguado, M. San Miguel
Transición de primer orden y funciones de correlación en láseres con fluctuaciones de ganancia. (P)
II Reunión de Física Estadística. Palma, November 1988.

4. E. Hernández-García, M.A. Rodríguez, L. Pesquera, M.San Miguel.
New results for random walk in disordered chains. (P)
9th General Conference of the Condensed Matter Division of the European Physical Society. Nice, March 1989.

5. E. Hernández-García, M.A. Rodríguez, L. Pesquera, M. San Miguel.
New results for random walk in disordered chains. (P)
NATO Advanced Research Workshop on Noise and Chaos in Nonlinear Dynamical Systems. Torino, March 1989.

6. E. Hernández-García, M. San Miguel, R. Toral, M. Aguado
Gain noise in dye lasers. (P)
Sixth Rochester Conference on Coherence and Quantum Optics.
Rochester, June 1989.

7. E. Hernández-García, L. Pesquera, M.A. Rodríguez, M. San Miguel.
Random walk in dynamically disordered chains. (P)
17th IUPAP International Conference on Thermodynamics and Statistical Mechanics.
Rio de Janeiro, August 1989.

8. <u>M.A.Rodríguez</u>, E.Hernández-García, L.Pesquera, M.San Miguel.
Diffusion in strong disordered chains.
17th IUPAP International Conference on Thermodynamics and Statistical Mechanics.
Rio de Janeiro, August 1989.

9. E. Hernández-García, M. San Miguel, R. Toral, M. Aguado.
Fluctuaciones de ganancia en láseres de colorante. (P)
XXII Reunión Bienal de la RSEF. Palma, October 1989.

10. E. Hernández-García, M.A. Rodríguez, L. Pesquera, M.San Miguel.
Caminos aleatorios en sistemas con desorden estático y dinámico. (P)
XXII Reunión Bienal de la RSEF. Palma, October 1989.

11. E. Hernández-García, J. Viñals, R. Toral, M. San Miguel.
Study of the Swift-Hohenberg equation in the presence of noise. (P)
Statistical physics at the 45th parallel. Montreal, October 1990.

12. E. Hernández-García, J. Viñals, R. Toral, M. San Miguel.
Noise and pattern selection in the one-dimensional Swift-Hohenberg equation. (P)
March Meeting of the APS. Cincinnati, March 1991.

13. E. Hernández-García, J. Viñals, R. Toral, M. San Miguel.
Noise, pattern selection and the Eckhaus instability. (P)
IV Reunión de Física Estadística. Gijón, September 1991.

14. E. Hernández-García, M. San Miguel, N.B. Abraham, F. de Pasquale.
Frequency selection and transient dynamics in single-mode lasers with optical feedback. (P)
IV Reunión de Física Estadística. Gijón, September 1991.

15. E. Hernández-García, J. Viñals, R. Toral, M. San Miguel.
Fluctuaciones críticas y selección de estructuras en la inestabilidad de Eckhaus. (P)
V Reunión de Física Estadística. El Escorial, May 1993.

16. A. Amengual, E. Hernández-García, M. San Miguel.
Efectos de tamaño finito en la dinámica de estructuras transitorias unidimensionales. (P)
V Reunión de Física Estadística. El Escorial, May 1993.

17. E. Hernández-García, J. Viñals, R. Toral, M. San Miguel.
Fluctuations effects near an Eckhaus instability. (P)
Chaos, order and patterns, Como, Italy, September 1993.

18. R. Montagne, A. Amengual, E. Hernández-García, M. San Miguel.
Secondary front propagation into unstable states. (P)
Chaos, order and patterns, Como, Italy, September 1993.

19. C.R. Mirasso, E. Hernández-García.
Effects of Current Modulation of Diode Lasers in Short External Cavities.
Semiconductor and Integrated Optoelectronics (SIOE '94), Cardiff, United Kingdom, March 1994.

20. J. Revuelta, L. Pesquera, E. Hernández-García, C.R. Mirasso.
Turn-on Jitter of Laser Diodes with Phase Conjugate Feedback. (P)
Semiconductor and Integrated Optoelectronics (SIOE '94), Cardiff, United Kingdom, March 1994.

21. I.S. Graham, E. Hernández-García, M. Grant.
Damage spreading during domain growth (P)
25 years of Statistical Mechanics. Sitges, June 1994.

22. R. Montagne, A. Amengual, E. Hernández-García, M. San Miguel.
Transient pattern formation by multiple front propagation. (P)
25 years of Statistical Mechanics. Sitges, June 1994.

23. J. Revuelta, L. Pesquera, E. Hernández-García, C.R. Mirasso.
Effect of phase-conjugate optical feedback on turn-on jitter in laser diodes (P)
CLEO/Europe-EQEC. Amsterdam, August 1994.

24. E. Hernández-García, I.S. Graham, M. Grant.
Damage propagation out of equilibrium. (P)
VI Reunión de Física Estadística. Sevilla, October 1994.

25. J. Revuelta, L. Pesquera, E. Hernández-García, C.R. Mirasso.
Efecto del feedback conjugado en la dispersión del tiempo de encendido de un diodo láser. (P)
VI Reunión de Física Estadística. Sevilla, October 1994.

26. J. Dellunde, J.M. Sancho, M.C. Torrent, C.R. Mirasso, E. Hernández-García.
Estadística de tiempos de paso en un láser semiconductor con feedback y señal inyectada. (P)
VI Reunión de Física Estadística. Sevilla, October 1994.

27. R. Montagne, E. Hernández-García, M. San Miguel.
Study of the disordered regimes in the complex Ginzburg-Landau equation and its non-equilibrium potential. (P)
VI Reunión de Física Estadística. Sevilla, October 1994.

28. E. Hernández-García, O. Piro.
Terremotos lubricados en medios excitables elásticos.
VI Reunión de Física Estadística. Sevilla, October 1994.

29. A. Alvarez, J. Tintoré, E. Hernández-García.
Implications of Langevin topograpic turbulence on large-scale ocean modelling. (P)
XX General Assembly of the European Geophysical Society. Hamburgo, April 1995.

30. A. Amengual, M. San Miguel, R. Montagne, E. Hernández-García.
Polarization Pattern Dynamics in the Laser Vector Complex Ginzburg-Landau Equation. (P)
Nonlinear Dynamics in Optical Systems'95. Rochester, June 1995.

31. M. San Miguel, A. Amengual, E. Hernández-García, R. Montagne.
Polarization Pattern Dynamics in a Laser.
International Workshop on Measures of Spatio-Temporal Dynamics. Bryn Mawr, June 1995.

32. M. San Miguel, R. Montagne, E. Hernández-García. *Numerical Analysis of a Lyapunov Functional for the Complex Ginzburg-Landau Equation.* (P)
International Workshop on Measures of Spatio-Temporal Dynamics. Bryn Mawr, June 1995.

33. E. Hernández-García, O. Piro.
Lubricated Earthquakes in Excitable Media.
Chaos: Towards the Next Century. Como, June 1995.

34. A. Amengual, E. Hernández-García, R. Montagne, M. San Miguel, D. Walgraef.
Regular and Chaotic Behavior in the Vector Complex Ginzburg-Landau Equation. (P)
Dynamics Days'95. Lyon, June 1995.

35. E. Hernández-García, O. Piro.
Lubricated Earthquakes in Elastic Excitable Media. (P)
Dynamics Days'95. Lyon, June 1995.

36. R. Montagne, E. Hernández-García, and M. San Miguel.
Survey on an Approximate Non-Equilibrium Potential for the Complex Ginzburg-Landau Equation. (P)
Dynamics Days'95. Lyon, June 1995.

37. A. Alvarez, E. Hernández-García, J. Tintoré.
Renormalization Group Analysis of Beta-plane Turbulence.
XXI General Assembly of the European Geophysical Society. The Hague, May 1996.

38. A. Alvarez, E. Hernández-García, J. Tintoré.
Corrientes sostenidas por ruido en turbulencia cuasigeostrófica sobre topografía. (P)
VII Reunión de Física Estadística. Zaragoza, May 1996.

39. R. Montagne, E. Hernández-García, and M. San Miguel.
Eckhaus-like instability in the phase-turbulence regime of the Complex Ginzburg-Landau equation. (P)
Dynamics Days'96. Lyon, July 1996.

40. A. Alvarez, E. Hernández-García, J. Tintoré.
Noise-induced average currents in quasigeostrophic turbulence over bottom topography. (P)
Dynamics Days'96. Lyon, July 1996.

41. V. Martínez, E. Hernández-García, O. Piro, S. Bal.le.
Caos espacial inducido por contornos ondulados. (P)
No-lineal 97. Avila, 10-12 April 1997.

42. J. Cartwright, E. Hernández-García, O. Piro.
Stick-slip dynamics, elastic excitable media, and active transmission lines. (P)
No-lineal 97. Avila, 10-12 April 1997.

43. A. Alvarez, E. Hernández-García, J. Tintoré.
Noise-sustained structures in quasigeostrophic turbulence. (P)
XXII General Assembly of the European Geophysical Society. Viena, April 1997.

44. C. Mirasso, E. Hernández-García, M. San Miguel, D. Lenstra, G. van Tartwijk, S. Lynch, P. Landais, P. Phelan, J. O'Gorman.
Self pulsation frequency dependence of CD lasers: a comparison between experiment and theory.
Semiconductor and Integrated Optoelectronics Conference SIOE'97. Cardiff, April 1997.

45. V. Martínez Eguíluz, E. Hernández-García, O. Piro, S. Bal.le.
Caos espacial inducido por contornos ondulados. (P)
VIIII Reunión de Física Estadística, FISES'97. Getafe, September 1997.

46. T. Ala-Nissilä, P. Colet, M. Dubé, E. Hernández-García, S. Majaniemi.
Resonancia estocástica en difusión de adátomos sobre superficies cristalinas. (P)
VII Reunión de Física Estadística, FISES'97. Getafe, September 1997.

47. C. López, A. Álvarez, E. Hernández-García.
EOF analysis of satellite and simulation data of the Mediterranean Sea. (P)
7th Geophysical and Enviromental Fluid Dynamics Summer School, Cambridge, United Kingdom, September 1997.

48. E. Hernández-García, A. Amengual, R. Montagne, M. San Miguel, P. Colet, M. Hoyuelos.
Spatiotemporal intermittency in a complex Ginzburg-Landau equation. (P)
Patterns, non-linear dynamics and stochastic behaviour in spatially extended, complex systems (PNS'97). Budapest (Hungary), October 1997.

49. V.M. Eguíluz, E. Hernández-García, O. Piro, S. Bal.le.
Boundary induced frozen chaos. (P)
Patterns, non-linear dynamics and stochastic behaviour in spatially extended, complex systems (PNS'97). Budapest (Hungary), October 1997.

50. V.M. Eguíluz, E. Hernández-García, O. Piro, S. Bal.le.
Boundary induced frozen chaos. (P)
7th Workshop on Instabilities and Nonequilibrium Structures. Valparaíso (Chile), December 1997.

51. E. Hernández-García, A. Amengual, R. Montagne, M. San Miguel, P. Colet, M. Hoyuelos, D. Walgraef.
Spatiotemporal intermittency in a complex Ginzburg-Landau equation. (P)
7th Workshop on Instabilities and Nonequilibrium Structures. Valparaíso (Chile), December 1997.

52. C. López, E. Hernández-García.
Empirical orthogonal function analysis of altimetry data of the Algerian current: towards a low-dimensional dynamical system model. (P)
XXIII General Assembly of the European Geophysical Society. Nice (France), April 1998.

53. E. Hernández-García, A. Amengual, R. Montagne, M. San Miguel, M. Hoyuelos, P. Colet.
Spatiotemporal chaos in polarized light waves. (P)
Euroconference on Patterns in Nonlinear Optical Systems. Alicante, May 1998.

54. V. M. Eguíluz, E. Hernández-García, O. Piro.
Boundary effects in the complex Ginzburg-Landau equation.
Synchronization, Pattern Formation, and Spatio-Temporal Chaos in Coupled Chaotic Oscillators. Santiago de Compostela, June 1998.

55. E. Hernández-García, M. Hoyuelos, P. Colet, R. Montagne, M. San Miguel.
Spatiotemporal chaos, localized structures, and synchronization in the vector complex Ginzburg-Landau equation.
Synchronization, Pattern Formation, and Spatio-Temporal Chaos in Coupled Chaotic Oscillators. Santiago de Compostela, June 1998.

56. V. Martínez-Eguíluz, E. Hernández-García, O. Piro, P. Alstrom.
Boundary induced average patterns and frozen chaos. (P)
STATPHYS 20, XX IUPAP International Conference on Statistical Physics. Paris (France), July 1998.

57. E. Hernández-García, A. Álvarez, J. Tintoré.
Noise rectification in quasigeostrophic forced turbulence. (P)
STATPHYS 20, XX IUPAP International Conference on Statistical Physics. Paris (France), July 1998.

58. R. Montagne, V. Caselles, E. Hernández-García, M. San Miguel.
Localized solutions in coupled complex Ginzburg-Landau equations. (P)
STATPHYS 20, XX IUPAP International Conference on Statistical Physics. Paris (France), July 1998.

59. E. Hernández-García, A. Amengual, R. Montagne, M. San Miguel, M. Hoyuelos, P. Colet.
Spatiotemporal Chaos in Polarized Light Waves.
CLEO/EQEC. Glasgow, United Kingdom, September 1998.

60. J. Tintoré, M. Riera, V. Fernández, E. Hernández-García, A. Álvarez, D. Gomis, S. Monserrat, C. Reus, P. Ballester, J.L. López-Jurado, X. Jansà, J. Font.
Interaction between local, sub-basin and basin scale dynamics in the western Mediterranean: observations and modelling.
3rd Mediterranean Target Project Meeting. Rhodes, Grecia, October 1998.

61. A. Álvarez, E. Hernández-García, J. Tintoré.
Large scale circulations induced by small and mesoscale forcings.
XXIV General Assembly of the European Geophysical Society. The Hague, The Netherlands, April 1999.

62. Z. Neufeld, C. López, P.H. Haynes, E. Hernández-García.
Smooth-filamental transition of active tracer fields stirred by chaotic advection. (P)
XXIV General Assembly of the European Geophysical Society. The Hague, The Netherlands, April 1999.

63. C. López, Z. Neufeld, E. Hernández-García, P.H. Haynes.
Transición suave filamentosa para estructuras espaciales de trazadores químicamente activos mezclados por advección caótica. (P)
VIII Reunión de Física Estadística, FISES'99. Santander, May 1999.

64. R. Toral, C.R. Mirasso, E. Hernández-García, O. Piro.
Synchronization of chaotic systems by common random forcing. (P)
VIII Reunión de Física Estadística, FISES'99. Santander, May 1999.

65. E. Hernández-García, M. Hoyuelos, P. Colet, M. San Miguel.
Spatiotemporal chaos in the vector complex Ginzburg-Landau equation. (P)
VIII Reunión de Física Estadística, FISES'99. Santander, May 1999.

66. V.M. Eguíluz, E. Hernández-García, O. Piro.
Paredes y esquinas en la dinámica de medios auto-oscilantes. (P)
VIII Reunión de Física Estadística, FISES'99. Santander, May 1999.

67. V.M. Eguíluz, E. Hernández-García, O. Piro.
Boundary effects on complex Ginzburg-Landau dynamics. (P)
Fifth SIAM Conference on Applications of Dynamical Systems 1999. Snowbird, Utah, USA, May 1999.

68. E. Hernández-García, P. Colet, M. San Miguel, M. Hoyuelos.
Defect dynamics in the vector complex Ginzburg-Landau equation. (P)
Fifth SIAM Conference on Applications of Dynamical Systems 1999. Snowbird, Utah, USA, May 1999.

69. M. Santagiustina, M. San Miguel, E. Hernández-García, G-L. Oppo, A. Scroggie.
Dynamics and stabilization of vectorial defects in type-II optical parametric oscillators. (P)
Quantum Optics X, Mallorca, October 1999.

70. Víctor M. Eguíluz, Emilio Hernández-García, and Oreste Piro.
Boundary effects in extended dynamical systems. (P)
LAWN'99, Córdoba, Argentina, 1999.

71. M. Santagiustina, M. San Miguel, Emilio Hernández-García, G-L. Oppo, A. Scroggie.
Dynamics and stabilization of vectorial defects in type-II optical parametric oscillators. (P)
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72. A. Álvarez, C. López, M. Riera, E. Hernández-García, J. Tintoré.
A satellite based ocean forecasting system using genetic algorithms. (P)
XXV General Assembly of the European Geophysical Society. Nice, France, April 2000.

73. C. López, E. Hernández-García, O. Piro, A. Vulpiani, E. Zambianchi.
Spatial inhomogeneities in discrete predator-prey models advected by chaotic flows. (P)
XXV General Assembly of the European Geophysical Society. Nice, France, April 2000.

74. A. Orfila, A.Álvarez, J. Tintoré, E.Hernández-García.
Extracting dynamics from empirical data: an evolutionary computation approach.
XXV General Assembly of the European Geophysical Society. Nice, France, April 2000.

75. Cristóbal López, E. Hernández-García, A.Álvarez.
Predicción de dinámica espaciotemporal mediante algoritmos genéticos. (P)
NoLineal2000. Almagro (Ciudad Real). May 2000.

76. M. Santagiustina, E. Hernandez-García, M. San Miguel, G-L. Oppo, A. Scroggie.
Vectorial Vortices in Type-II Optical Parametric Oscillators.
CLEO/EUROPE IQEC 2000. Nice, France, September 2000.

77. Cristóbal López, Zoltán Neufeld, Emilio Hernández-García, Oreste Piro, Angelo Vulpiani, E. Zambianchi.
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FISES2000. Santiago de Compostela. September 2000.

78. Cristóbal López, Alberto Álvarez, Emilio Hernández-García, Margalida Riera, Joaquín Tintoré.
Predicción de dinámica espaciotemporal mediante algoritmos genéticos. (P)
FISES2000. Santiago de Compostela. September 2000.

79. V. Pérez-Muñuzuri, I. Sendiña-Nadal, V.M. Eguíluz, E. Hernández-García, O. Piro.
Cuasiperiodicidad en sistemas excitables inducida por un contorno ondulado. (P)
FISES2000. Santiago de Compostela. September 2000.

80. M. Santagiustina, G. Izús, M. San Miguel, E. Hernández-García, G. L. Oppo and A. Scroggie.
Vectorial defects and Bloch Polarization Domain Walls in Optical Parametric Oscillators.
Interdisciplinary International Conference PELS-2000: Polarization effects in lasers, spectroscopy and optoelectronics. Southampton (Inglaterra), September 2000

81. A. Álvarez, E. Hernández-García, J. Tintoré.
The effect of small scale ocean processes on topographically induced currents in a quasigeostrophic baroclinic ocean.
XXVI General Assembly of the European Geophysical Society. Nice (France), March 2001.

82. C. López, E. Hernández-García, Z. Neufeld.
Lagrangian studies of chaotic advection of decaying substances: the rôle of diffusion. (P)
XXVI General Assembly of the European Geophysical Society. Nice (France), March 2001.

83. V.M. Eguíluz, E. Hernández-García, O. Piro.
Wall effects on nonlinear dissipative waves in oscillating media. (P)
Waves and Wave Turbulence. Nyborg (Denmark), August 2001.

84. G. Basterretxea, A. Orfila, A. Jordi, A. Álvarez, E. Hernández-García, J. Tintoré.
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3 Asamblea Hispano Portuguesa de Geodesia y Geofísica. Valencia. February 2002.

85. E. Hernández-García, O. Piro, Z. Neufeld, C. López.
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86. J.G. Schneider, V. Fernández, E. Hernández-García
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European Geophysical Society/American Geophysical Union Joint Assembly. Nice (France). April 2003.

87. J.G. Schneider, V. Fernández, E. Hernández-García
Open flow approach to the stable and unstable foliation of the Mediterranean Sea (P)
European Geophysical Society/American Geophysical Union Joint Assembly. Nice (France). April 2003.

88. Emilio Hernández-García and Cristóbal López
Brownian bug models with neighborhood-dependent reproduction rate: Continuum description and pattern formation (P)
FISES2003. Pamplona. October 2003.

89. Francesco d'Ovidio, Vicente Fernández, Emilio Hernández-García, Cristóbal López
Finite-size Lyapunov exponents of surface velocity data of the Mediterranean Sea (P)
III Jornades de la Xarxa Temàtica *Nonlinear Dynamics of Spatio-Temporal Selforganization*. Barcelona. February 2004.

90. Cristóbal López and Emilio Hernández-García
Agregación en modelos de individuos con interacciones no locales
III Jornades de la Xarxa Temàtica *Nonlinear Dynamics of Spatio-Temporal Selforganization*. Barcelona. February 2004.

91. F. dOvidio, V. Fernández, E. Hernández-García, and C. López
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1st General Assembly of the European Geosciences Union. Nice (France). April 2004.

92. J.G. Schneider, V. Fernández and E. Hernández-García
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1st General Assembly of the European Geosciences Union. Nice (France). April 2004.

93. J.G. Schneider, V. Fernández and E. Hernández-García
Routes of transport of passive particles in the Mediterranean (P)
1st General Assembly of the European Geosciences Union. Nice (France). April 2004.

94. F. d'Ovidio, V. Fernández, E. Hernández-García, C. López
Mesoscale Mixing and transport in the Mediterranean Sea by Finite-Size Lyapunov Exponents calculations
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95. J. Isern, E. García-Ladona, F. d'Ovidio, E. Hernández-García and C. López
Transport and mixing in the Mediterranean Sea: Comparison between Okubo-Weiss and finite size Lyapunov exponents calculation (P)
2nd General Assembly of the European Geosciences Union. Viena (Austria). April 2005.

96. F. d'Ovidio, C. López, E. Hernández-García, J. Isern-Fontanet and E. García-Ladona
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97. A. M. Mancho, E. Hernández-García, S. Wiggins, D. Small and V. Fernández
Lobe dynamics and transport predictions across the North-East Balearic front (O & P)
3rd LAPCOD (Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics) Meeting, Lerici (Italia) June 2005.

98. C. López, F. d'Ovidio, E. Hernández-García and V. Fernández
Transport and mixing in the Mediterranean sea by Finite Size Lyapunov Exponents
3rd LAPCOD (Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics) Meeting, Lerici (Italia) June 2005.

99. C. López, E. Hernández-García, M. A. Muñoz
Brownian bug models with neighborhood-dependent reproduction rate: Critical properties (P)
FISES2005, XIII Reunión de Física Estadística. Madrid, June 2005.

100. F. d'Ovidio, C. López, E. Hernández-García
Mixing structures in the Mediterranean Sea (P)
FISES2005, XIII Reunión de Física Estadística. Madrid, June 2005.

101. A. F. Rozenfeld, V.M. Eguíluz, E. Hernández-García, M. A. Matías, C. M. Duarte, S. Arnaud-Haond
Network approach to the genetic relationships between clonal plants (P)
Dynamics Days 2005, Berlin (Germany), July 2005.

102. M. Sandulescu, C. López, E. Hernández-García, U. Feudel
Transport enhancement by the wake of an island (P)
Dynamics Days 2005, Berlin (Germany), July 2005.

103. C. López, E. Hernández-García, F. d'Ovidio, J. Isern-Fontanet, E. Garcia-Ladona
Transport and mixing in the Mediterranean Sea: Comparison between Okubo-Weiss and finite size Lyapunov exponents calculation. (P)
IV Jornades de la Xarxa Temàtica Nonlinear Dynamics of Spatio-Temporal Selforganization, Barcelona, February 2006.

104. M. Sandulescu, C. López, E. Hernández-García, U. Feudel
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IV Jornades de la Xarxa Tematica Nonlinear Dynamics of Spatio-Temporal Selforganization, Barcelona, February 2006.

105. A. F. Rozenfeld, V.M. Eguíluz, E. Hernández-García, M. A. Matías, C. M. Duarte, S. Arnaud-Haond
Network approach to the genetic relationships between clonal plants (P)
IV Jornades de la Xarxa Tematica Nonlinear Dynamics of Spatio-Temporal Selforganization, Barcelona, February 2006.

106. F. d'Ovidio, B. Legras,E. Hernández-García, C. López, E. García-Ladona, J. Isern-Fontanet, M. Lévi,Y. Lehahn
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107. M. Sandulescu, C. López, E. Hernández-García, U. Feudel
Simple modelling of the biological activity at the Canary Islands
3rd General Assembly of the European Geosciences Union. Viena (Austria). April 2006.

108. A. F. Rozenfeld, S. Arnaud-Haond, E. Hernández-García, V.M. Eguíluz, M. A. Matías, E. Serrão and C. M. Duarte
Genetic similarity networks in clonal plant populations (P)
FISES2006, XIV Reunión de Física Estadística. Granada, September 2006.

109. M. Sandulescu, C. López, E. Hernández-García, U. Feudel
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FISES2006, XIV Reunión de Física Estadística. Granada, September 2006.

110. A. Jacobo, P. Colet and E. Hernández-García
Jump detection in ecological data series using nonlinear dynamics of extended systems (P)
FISES2006, XIV Reunión de Física Estadística. Granada, September 2006.

111. E. A. Herrada, V. M. Eguíluz, E. Hernández-García and C. M. Duarte
Scaling properties of intraspecific and interspecific phylogenies in the tree of life (P)
FISES2006, XIV Reunión de Física Estadística. Granada, September 2006.

112. E. A. Herrada, V. M. Eguíluz, E. Hernández-García and C. M. Duarte
Scaling properties of intraspecific and interspecific phylogenies in the tree of life (P)
10th Evolutionary Biology Meeting. Marseille (France), September 2006.

113. E. A. Herrada, V. M. Eguíluz, E. Hernández-García and C. M. Duarte
Scaling properties in the Tree of Life
Workshop on Social and Ecological Networks, European Conference on Complex Systems (ECCS06). Oxford, United Kingdom, September 2006.

114. E. A. Herrada, C.R. Tessone, V. M. Eguíluz, E. Hernández-García and C. M. Duarte
Scaling properties of intraspecific and interspecific phylogenies in the tree of life (P)
MEDYFINOL06: XV Meeting on Nonequilibrium Statistical Mechanics and Nonlinear Physics. Mar del Plata, Argentina, December 2006.

115. A. Jacobo, P. Colet and E. Hernández-García
ThEnhancer, a computer program to detect jumps in ecological time series (P)
2nd Annual Assembly of the THRESHOLDS Integrated Project. Helsinki, Finland, January 2007.

116. M. Sandulescu, C. Lopez, E. Hernández-García, U. Feudel
Biological activity in the wake of an island close to a coastal upwelling
European Geosciences Union General Assembly 2007. Vienna(Austria), April 2007.

117. V. Rossi, C. López, J. Sudre, E. Hernández-García, V. Garçon
Spatio-temporal variations of stirring in the surface ocean of the Canary, Benguela, Humboldt and Iberian peninsula upwellings
EurOceans General Assembly, Athens(Greece), April 2007.

118. J.-M. Zaldivar-Comenges, F.S. Bacelar, S. Dueri, E. Hernández-García, P. Viaroli
A modelling approach to nutrient-driven regime shifts in shallow coastal systems: competition between seagrass and macroalgae (P)
6th International Congress on Industrial and Applied Mathematics (ICIAM07). Zürich, (Switzerland), July 2007.

119. C. López, S. Pigolotti, E. Hernández-García
Species clustering in competitive Lotka Volterra models (P)
23rd International Conference on Statistical Physics (STATPHYS 23), Genova (Italy), July 2007.

120. F.S. Bacelar, J.-M. Zaldivar-Comenges, S. Dueri, E. Hernández-García,
Regime changes in competing floating-submerged plant ecosystems (P)
European Conference on Complex Systems (ECCS07). Dresden, Germany, October 2007.

121. E. Hernández-García, A. F. Rozenfeld, S. Arnaud-Haond, V.M. Eguíluz, E. Serrão and C. M. Duarte
Genetic similarity networks: Weak and strong links in populations and in metapopulations (P)
European Conference on Complex Systems (ECCS07). Dresden, Germany, October 2007.

122. E. A. Herrada, C.J. Tessone, V. M. Eguíluz, E. Hernández-García and C. M. Duarte
Universal scaling in phylogenetic branching (P)
European Conference on Complex Systems (ECCS07). Dresden, Germany, October 2007.

123. The EDEN team
Ecological Diversity and Evolutionary Networks: The EDEN project (P)
Showcase of European Complexity Science Projects (CRP Forum). Dresden, Germany, October 2007.

124. J.M. Zaldívar, D. Marinov, F. Somma, F.S. Bacelar, E. Hernández-García, I. Puillat-Felix, and P. Viaroli
Nutrient driven regime shifts in coastal lagoons: a 3d modelling approach
3rd European Conference on Lagoon Research, Naples, Italy, November 2007.

125. A. Murza, N. Komin, T. Pérez, C. Mirasso, E. Hernández-García, Raúl Toral
The role of light - dark cycle and constructive diversity in synchronizing circadian oscillators (P)
EUFEPS (European Federation for Pharmaceutical Sciences) Conference on Optimising Drug Discovery and Development, Basel, Switzerland, December 2007.

126. J.M. Zaldívar, D. Marinov, S. Dueri, I. Puillat-Felix, F. Somma, F.S. Bacelar, E. Hernández-García and P. Viaroli
Nutrient and temperature driven regime shifts in coastal lagoons: A 3D modelling approach
3rd Annual Assembly of the THRESHOLDS Integrated Project. Roma, Italy, January 2008.

127. E. A. Herrada, C.J. Tessone, K. Klemm, V.M. Eguíluz, E. Hernández-García, C.M. Duarte
From genes to species: Universal scaling?
Workshop on Dynamics and Evolution of Biological and Social Networks. Palma de Mallorca, Spain, February 2008.

128. E. A. Herrada, C.J. Tessone, V. M. Eguíluz, E. Hernández-García and C. M. Duarte
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FISES2008, XV Reunión de Física Estadística. Salamanca, March 2008.

129. F.S. Bacelar, J.-M. Zaldívar-Comenges, S. Dueri, E. Hernández-García
Regime changes in competing floating-submerged plant ecosystems (P)
FISES2008, XV Reunión de Física Estadística. Salamanca, March 2008.

130. F.S. Bacelar, S. Dueri, E. Hernández-García, J.-M. Zaldívar-Comenges,
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FISES2008, XV Reunión de Física Estadística. Salamanca, March 2008.

131. V. Rossi, C. López, J. Sudre, E. Hernández-García, V. Garçon
Mixing, Lyapunov exponents, and biological activity in the Benguela and the Canary upwelling systems
European Geosciences Union General Assembly 2008. Vienna(Austria), April 2008.

132. V. Rossi, C. López, J. Sudre, E. Hernández-García, V. Garçon
A comparative study of the Benguela and the Canary upwelling systems (P)
4th IGBP Congress, Sustainable Livelihoods in a Changing Earth System, Capetown (South-Africa), May 2008.

133. Emilio Hernández-García Alejandro F. Rozenfeld, Sophie Arnaud-Haond, Víctor M. Eguíluz, Ester Serrão and Carlos M. Duarte
Networks of Genetic Similarity in Populations and in Metapopulations (P)
International Conference "Modelling and Computation on Complex Networks and Related Topics", Net-Works 2008. Pamplona, Spain, June 2008.

134. E. Hernández-García, V. Rossi, C. López, J. Sudre, V. Garçon
Mixing, Lyapunov exponents, and biological activity in the Benguela and the Canary upwelling systems (P)
Nonlinear Processes in Oceanic and Atmospheric Flows, NLOA2008. Castro Urdiales, Spain, July 2008.

135. I. Hernández-Carrasco, C. López, E. Hernández-García, A. Turiel
Statistical properties and robustness of dispersion from surface velocity data(P)
Nonlinear Processes in Oceanic and Atmospheric Flows, NLOA2008. Castro Urdiales, Spain, July 2008.

136. U. Feudel, M. Sandulescu, J.C. Zahnow, C. López, E. Hernández-García, T. Tél, R.D. Vilela
Interplay between hydrodynamic motion and biological activity: Plankton blooms and marine aggregates
Nonlinear Processes in Oceanic and Atmospheric Flows, NLOA2008. Castro Urdiales, Spain, July 2008.

137. V. Garçon, V. Rossi, C. López, J. Sudre, E. Hernández-García
Marine ecosystem dynamics and horizontal stirring and mixing
Nonlinear Processes in Oceanic and Atmospheric Flows, NLOA2008. Castro Urdiales, Spain, July 2008.

138. S. Wiggins, A. Mancho, D. Small, E. Hernández-García, V. Fernández, M. Branicki
The Dynamical Systems Approach to Transport Associated with Fronts and Eddies in a Realistic Numerical Model of Flow in the Northwest Mediterranean
Nonlinear Processes in Oceanic and Atmospheric Flows, NLOA2008. Castro Urdiales, Spain, July 2008.

139. I. Hernández-Carrasco, C. López, E. Hernández-García, A. Turiel
Statistical properties and robustness of dispersion from surface velocity data(P)
Dynamics of Inertial Particles: From Ocean and Atmosphere to Planets. Dresden, Germany, September 2008.

140. A. Murza, S. Bernard, N. Komin, T. Pérez, E. Hernández-García, R. Toral
The role of light-dark cycle, constructive diversity and coupling symmetries in synchronizing circadian oscillators (P)
4th BioSim Conference. Budapest, Hungary, September 2008.

141. I. Hernández-Carrasco, C. López, E. Hernández-García, A. Turiel
Extremes of stretching in ocean flow: Intermittency and its impact in transport and mixing (P)
Extreme Events: Theory, Observations, Modeling and Prediction. Palma de Mallorca, Spain, November 2008.

142. M. Patriarca, R. Toral, E. Hernández-García
Diversity in a neuronal model for the wake-sleep cycle
BioSim workshop on Methodological Challenges for Systems Biology: linking networks, crossing scales. Venice, Italy, 30 March -3 April 2009

143. I. Hernández-Carrasco, E. Hernández-García, C. López, A. Turiel
Statistical properties and robustness of dispersion measurements from surface velocity data (P)
European Geosciences Union General Assembly 2009. Vienna(Austria), April 2009.

144. V. Rossi, E. Tewkai, C. López, J. Sudre, E. Hernández-García, V. Garçon
Marine ecosystem dynamics, ocean circulation and horizontal stirring
European Geosciences Union General Assembly 2009. Vienna(Austria), April 2009.

145. M. Patriarca, R. Toral, E. Hernández-García
Effect of diversity in a neuronal model for the sleep-wake cycle
5th Conference of the BioSim Network of Excellence. Copenhagen, (Denmark). August 2009.

146. A. Murza, N. Komin, E. Hernández-García, R. Toral
Synchronization of coupled circadian oscillators (P)
5th BioSim Conference. Copenhagen, Denmark, August 2009.

147. I. Hernández-Carrasco, E. Hernández-García, C. López, A. Turiel
Reliability of a Lagrangian analysis from FSLEs (& P)
Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics (LAPCOD) 2009. La Londe-des-Maures, France, September 2009.

148. M. Patriarca, E. Hernández-García, R. Toral ,
Role of diversity in a neuronal model of wake-sleep cycle (P)
FISES2009, XVI Reunión de Física Estadística. Huelva, September 2009.

149. F.S. Bacelar, J. Calabrese, V. Grimm, E. Hernández-García ,
Savanna-Fire Model: Combined effects of tree-tree establishment competition and spatially explicit fire on the spatial pattern of trees in savannas (P)
FISES2009, XVI Reunión de Física Estadística. Huelva, September 2009.

150. E. Heinsalu, E. Hernández-García, C. López ,
Nonlocally interacting particle systems: Lévy flights versus Gaussian jumps (P)
FISES2009, XVI Reunión de Física Estadística. Huelva, September 2009.

151. N. Komin, A. Murza, R. Toral, E. Hernández-García,
Constructive effects of diversity in the synchronisation of a model for the circadian clock in mammals (P)
FISES2009, XVI Reunión de Física Estadística. Huelva, September 2009.

152. I. Hernández-Carrasco, E. Hernández-García, C. López, A. Turiel
Scaling and robustness of finite-size Lyapunov exponents in surface marine flows (P)
FISES2009, XVI Reunión de Física Estadística. Huelva, September 2009.

153. Raúl Toral, Miguel Pineda, and Emilio Hernández-García
Role of noise in a continuous opinion model (P)
FISES2009, XVI Reunión de Física Estadística. Huelva, September 2009.

154. Stephanie Keller-Schmidt, Murat Tuğrul, Víctor M. Eguíluz, Emilio Hernández-García, Konstantin Klemm
Shapes of Phylogenetic Trees: Age Model and Likelihoods (P)
International Workshop on *150 Years after Darwin: From Molecular Evolution to Language*. Trends in Complex Systems series. Palma de Mallorca, November 2009.

155. Murat Tuğrul, Stephanie Keller-Schmidt, Víctor M. Eguíluz, Emilio Hernández-García, Konstantin Klemm
Can Age Explain Macroevolution? (P)
International Workshop on *150 Years after Darwin: From Molecular Evolution to Language*. Trends in Complex Systems series. Palma de Mallorca, November 2009.

156. I. Hernández-Carrasco, E. Hernández-García, C. López, A. Turiel
How reliable are Finite-Size Lyapunov Exponents for the assessment of ocean evolution? (P)
European Geosciences Union General Assembly 2010. Vienna(Austria), May 2010.

157. Flora S. Bacelar, Justin Calabrese, Volker Grimm, Emilio Hernández-García
Savanna-Fire Model: Combined effects of tree-tree establishment competition and spatially explicit fire on the spatial pattern of trees in savannas
CMPD 3: Conference on Computational and Mathematical Population Dynamics. Bordeaux, France, June 2010.

158. João Bettencourt, Cristóbal López, Emilio Hernández-García
Coherent Structures in a Three Dimensional Turbulent Velocity Field (P)
International Workshop on *Living organisms on flows (Orflow10)*. Trends in Complex Systems series. Palma de Mallorca, June 2010.

159. I. Hernández-Carrasco, E. Hernández-García, C. López, A. Turiel
Reliability of Lagrangian diagnosis from finite-size Lyapunov exponents. (P)
International Workshop on *Living organisms on flows (Orflow10)*. Trends in Complex Systems series. Palma de Mallorca, June 2010.

160. M. Patriarca, E. Hernández-García, R. Toral, S. Postnova, H.A. Braun
Diversity effects in a homeostatic model of the wake-sleep cycle
STATPHYS 24, The XXIV International Conference on Statistical Physics of the International Union for Pure and Applied Physics (IUPAP), Cairns, Queensland (Australia), July 2010.

161. E. Heinsalu, E. Hernández-García, C. López
Nonlocally interacting particle systems: Levy flights versus Gaussian jumps (P)
STATPHYS 24, The XXIV International Conference on Statistical Physics of the International Union for Pure and Applied Physics (IUPAP), Cairns, Queensland (Australia), July 2010.

162. Flora S. Bacelar, Justin Calabrese, Emilio Hernández-García
Combined effects of tree-tree establishment competition and spatially explicit fire on the spatial pattern of trees in savannas (P)
Emergence and Design Robustness (ROBUST). Palma de Mallorca, September 2010.

163. M. Pineda, R. Toral, E. Hernández-García
Noisy continuous-opinion dynamics (P)
Emergence and Design Robustness (ROBUST). Palma de Mallorca, September 2010.

164. N. Komin, A. Murza, R. Toral, E. Hernández-García
Synchronization properties of coupled circadian oscillators (P)
Emergence and Design Robustness (ROBUST). Palma de Mallorca, September 2010.

165. M. Patriarca, E. Hernández-García, R. Toral, S. Postnova, H.A. Braun
Noise and diversity effects in a homeostatic model of wake-sleep cycle
Emergence and Design Robustness (ROBUST). Palma de Mallorca, September 2010.

166. I. Hernández-Carrasco, C. López, E. Hernández-García, V. Rossi, V. Garçon
Transport of plankton in the Benguela upwelling system (P)
Anomalous Transport: from Billiards to Nanosystems. Sperlonga, Italy, September 2010.

167. J. Bettencourt, C. López, E. Hernández-García
Coherent Structures in a Three Dimensional Velocity Field (P)
Anomalous Transport: from Billiards to Nanosystems. Sperlonga, Italy, September 2010.

168. C. López, E. Heinsalu, E. Hernández-García
Spatial clustering of interacting particles: Levy flights versus Gaussian jumps (P)
Statistical Physics of Collective Motion. Dresden, Germany, November 2010.

169. I. Hernández-Carrasco, C. López, E. Hernández-García, A. Turiel
Horizontal Stirring in the global ocean (P)
Coherent Structures in Dynamical Systems. Leiden, The Netherlands, May 2011.

170. J. Bettencourt, C. López, E. Hernández-García
Coherent structures in three-dimensional flows (P)
Coherent Structures in Dynamical Systems. Leiden, The Netherlands, May 2011.

171. E. Hernández-García, S. Keller-Schmidt, M. Tuğrul, V.M. Eguíluz, K. Klemm
An Age-Dependent Branching Model for Macroevolution (P)
FISES2011, XVII Reunión de Física Estadística. Barcelona, June 2011.

172. Ismael Hernández-Carrasco, Vincent Rossi, Cristóbal López, Emilio Hernández-García, Joel Sudre Veronique Garçon
Simulation of plankton dynamics in the turbulent Benguela upwelling system (P)
3rd "Advances in Marine Ecosystem Modelling Research Symposium" (AMEMR III), Plymouth, United Kingdom, June 2011.

173. Cristóbal López, João Bettencourt, Emilio Hernández-García
Three-dimensional oceanic coherent structures
Dynamics Days Europe 2011, Oldenburg, Germany, September 2011.

174. Emilie Tew-Kai, Joel Sudre, David Gremillet, Hussein Yahia, Vincent Rossi, Emilio Hernández-García, Cristóbal López, Francis Marsac, Henri Weimerskirch, Véronique Garçon
Impact of oceanic submesoscale coherent structures on marine top predators: new tools and challenges
American Geophysical Union (AGU) Fall meeting 2011 (Session OS04: Recent Advances in Satellite Oceanography), San Francisco, USA, December 2011.

THESIS DIRECTED

PhD Thesis

1. *Dynamics of disordered regimes in spatially extended systems: The complex Ginzburg-Landau equation.* University of the Balearic Islands. Student: Raúl Montagne Dugrós. Dissertation presented on 25 November 1996. Qualification: Apto *cum laude* (codirected with M. San Miguel).

2. *Complex dynamics of physical, biological, and socio-economical systems.* University of the Balearic Islands. Student: Víctor Martínez Eguíluz. Dissertation presented on 13 December 1999. Qualification: Sobresaliente *cum laude* (codirected with O. Piro).

3. *Some applications of nonlinear physics to ocean dynamics: from Lagrangian chaos to genetic algorithms.* University of the Balearic Islands. Student: Cristóbal López Sánchez. Dissertation presented on 13 November 2000. Qualification: Sobresaliente *cum laude*.

4. *Nonlinear Dynamics and Regime Shifts in Ecosystems.* University of the Balearic Islands. Student: Flora Souza Bacelar. Dissertation presented on 24 November 2010. Qualification: Sobresaliente *cum laude*.

5. *A complex network approach to phylogenetic trees: From genes to the Three of Life.* University of the Balearic IslandsStudent: E. Alejandro Herrada. Dissertation presented on 4 February 2011. Qualification: Sobresaliente *cum laude* (codirected with V.M. Eguíluz & C.M. Duarte).

Master Thesis

1. *Bifurcation analysis of a marine food chain.* University of the Balearic Islands. Student: Flora Souza Bacelar. Dissertation presented on 19 September 2008.

2. *Simple Branching Models for Macroevolution.* University of the Balearic Islands. Student: Murat Tugrul. Dissertation presented on 3 September 2009 (codirected with V.M. Eguíluz).

3. *Scaling properties and robustness of finite-size Lyapunov exponents.* University of the Balearic Islands. Student: Ismael Hernández-Carrasco. Dissertation presented on 25 September 2009 (codirected with C. López).

COMMITEES, ORGANIZATION OF R+D ACTIVITIES, AND MANAGEMENT

Member of the Editorial Advisory Board of the journal Ecological Complexity (2012-2014).
Member of Organizing Commitee: European Science Foundation Study Center on *Transport in the Atmosphere and the Oceans* (TAO). Palma de Mallorca, 7 September -1 October 1999.
Member of Scientific Commitee: Reunión Española de Física Estadística (FISES), 1999-2003.
Member of Governing Board: Grupo Especializado de Física Estadística y No Lineal de la Real Sociedad Española de Física, May 2001 - May 2006.
Convener of session NP.9 *Transport and Mixing: Theory, Modelling and Observations* , XXVI General Assembly of the European Geophysical Society. Nice, France, March 2001.
Member of Scientific Commitee: Conference *Waves and Wave Turbulence*, Nyborg, Denmark, August 2001.
Convener of session *Pattern Formation*, Dynamics Days Europe 2003. Palma de Mallorca, September 2003.
Member of Organizing Commitee: 1st and 2nd Conferences of the BioSim Network of Excellence. Cala Viñas (Mallorca), 6-8 October 2005, 18-21 October 2006
Member of Organizing Commitee: Workshop on *Dynamics and evolution of biological and social networks.* Palma de Mallorca, February 2008.
Convener of session NP6.01 *Mixing, Transport and Diffusion in the Environment* , European Geosciences Union General Assembly 2008. Vienna, Austria, April 2008.
Member of Scientific Commitee, Member of Organizing Commitee: Workshop on *Nonlinear processes in oceanic and in atmospheric flows (NLOA2008).* Castro Urdiales, Cantabria, July 2008.
Member of Scientific Commitee, Member of Organizing Commitee: Workshop on *Living Organisms in Flows: From Small-scale Turbulence to Geophysical Flows (Orflow10).* IFISC, Palma de Mallorca, June 2010.
Convener of session *Lagrangian Coherent Structures in fluids*, Dynamics Days Europe 2011. Oldenburg, Germany, September 2011.
Deputy Director, Instituto de Física Interdisciplinar y Sistemas Complejos (IFISC), 2007-present

OTHER

Short stays (less than four weeks) in

Department of Chemistry, University of California at San Diego (USA).
Departamento de Estructura y Constituyentes de la Materia, Universidad de Barcelona.
Departamento de Física Moderna, Universidad de Cantabria, Santander.
Center for the Physics of Materials, McGill University, Montreal, Canada.
Instituto de Ciencias del Mar (CSIC, Barcelona).
Institut für Theoretische Physik und Synergetik, Universität Stuttgart, Stuttgart, Germany.
Center for Chaos and Turbulence Studies, Niels Bohr Institute, University of Copenhaghen, Copenhaghen, Denmark.
Instituto de Física, Universidad de la República, Montevideo, Uruguay.
Departamento de Física Aplicada I, Universidad de Málaga.
Departamento de Física de la Materia Condensada, Universidad de Santiago de Compostela.
Departament d'Ecologia, Universitat de Barcelona.
Laboratoire de Météorologie Dynamique, École Normale Supérieure, Paris.
Departamento de Física de la Materia Condensada (Universidad de Zaragoza) e Instituto de Ciencia de Materiales de Aragón (Universidad de Zaragoza-CSIC)
Departamento de Matemáticas y Física Aplicadas y Ciencias de la Naturaleza, Universidad Rey Juan Carlos, Móstoles, Madrid.
Max-Planck-Institut für Physik komplexer Systeme, Dresden (Germany).
Institute for Chemistry and Biology of the Marine Environment, Carl von Ossietzky Universität Oldenburg (Germany).
Department of Mathematics, Bristol University (United Kingdom).
Center for Nonlinear Studies, Los Alamos National Laboratory (USA).
Institute of Physics and Center for the Dynamics of Complex Systems, Universität Potsdam, (Germany).
Departamento de Matemáticas, Instituto de Matemáticas y Física Fundamental (IMAFF), CSIC, Madrid.
Institute for Environment and Sustainability, Joint Research Center of the European Commission, Ispra (Italy).
Center of Marine Sciences (CCMAR), Faro, Portugal.
Institute for Informatics. Leipzig University, Germany
Centre of Excellence in Computational Complex Systems Research, Department of Biomedical Engineering and Computational Science, Helsinki University of Technology, Finland
School of Mathematical Sciences, University College Dublin (Ireland)
Departamento de Biología del Cáncer, Instituto de Investigaciones Biomédicas "Alberto Sols" (CSIC-UAM), Madrid.
Departament de Física i Enginyeria Nuclear, Universitat Politècnica de Catalunya, Terrassa.

Referee for the Agencia Nacional de Evaluación y Prospectiva (ANEP, España), National Science Foundation (NSF, USA), Agencia Nacional de Promoción Científica y Tecnológica (ANPCyT, Argentina), Israeli Science Foundation (ISF, Israel), Fonds voor Wetenschappelijk Onderzoek (FWO, Belgium).
Referee for, among other journals, Physical Review Letters, Physical Review E, Physical Review A, Geophysical Research Letters, Nonlinear Processes in Geophysics, Ecological Complexity, Physica A, Physica D, Nonlinearity, Optics Communications, IEEE Journal of Quantum Electronics, ...

Member of the Spanish Royal Society of Physics, of the European Geophysical Union, and of the European Complex Systems Society.

Attendance to Conferences

1. Recent Developments in Nonequilibrium Thermodynamics: Fluids and related topics. San Feliu de Guíxols (Girona, Spain), September 16-20, 1985.
2. XX Reunión Bienal de la RSEF Sitges, Spain, October 1985.
3. Determinismo y Libertad. Figueres, Spain, November 1-3, 1985.
4. IX Sitges Conference: Fluctuations and Stochastic Phenomena in Condensed Matter. Sitges, Spain, May 1986.

5. NATO Advanced Study Institute and EPS Liquid State Summer School on Physicochemical Hydrodynamics: Interfacial Phenomena. La Rábida (Huelva, Spain). July 1-11 1986.
6. NATO Advanced Study Institute on Time-Dependent Effects in Disordered Materials. Geilo (Norway). 29 March -9 April 1987.
7. I Reunión de Física Estadística. Barcelona, Spain, 21-23 April 1987.
8. II Escuela Ibérica de Física de la Materia Condensada. Fenómenos Cooperativos. Figueira da Foz (Portugal). 14-25 September 1987.
9. Workshop de Estadística Cuántica: Láseres. Palma de Mallorca, Spain, 19-21 October 1987.
10. Workshop "External Noise and its Interaction With Spatial Degrees of Freedom in Nonlinear Dissipative Systems." Los Alamos (New Mexico, USA). 28-30 March 1988.
11. Workshop on "Dynamics of Nonlinear Optical Systems". Santander, Spain, 24-26 October 1988.
12. II Reunión de Física Estadística. Palma de Mallorca, Spain, 9-11 November 1988.
13. European Physical Society, 9th General Conference of the Condensed Matter Division. Nice (France) March 6-9 1989.
14. NATO Advanced Study Institute on Patterns, Defects,and Materials Instabilities. Cargèse (France) September 4-16 1989.
15. XXII Reunión Bienal de la RSEF. Palma de Mallorca, 2-6 October 1989.
16. III Reunión de Física Estadística. Badajoz, Spain, 5-7 April 1990.
17. Statistical Physics at the 45th parallel, IV. Montreal (Canada), 19-20 October 1990.
18. 1991 March meeting of the American Physical Society. Cincinnati (Ohio, USA), 18-22 March 1991.
19. IV Reunión de Física Estadística. Gijón, Spain, 18-20 September 1991.
20. II Meeting of the European Twinning Network on "Complexity and Chaos in Quantum Optics", Nice (France), 27-29 February 1992.
21. III Meeting of the European Twinning Network on "Complexity and Chaos in Quantum Optics", Mallorca, Spain, 31 May -2 April 1993.
22. V Reunión de Física Estadística. El Escorial, Spain, 4-7 May 1993.
23. Chaos, Order and Patterns: The Grand Finale. Como, Italy, 5-10 September 1993.
24. IV Meeting of the European Twinning Network on "Complexity and Chaos in Quantum Optics", Lille (France), 28-30 March 1994.
25. XIII Sitges Conference: 25 Years of Non-Equilibrium Statistical Mechanics. Sitges, Spain, 13-17 June 1994.
26. The Geometry of Forms in Equilibrium and Nonequilibrium Systems. St. John's (Canada), 15-20 July 1994.
27. Conference on Lasers and Electro-Optics and European Quantum Electronics Conference (CLEO/Europe-EQEC). Amsterdam (The Netherlands), 28 August -2 September 1994.
28. VI Reunión de Física Estadística. Sevilla, Spain, 6-8 October 1994.
29. Chaos: Towards the Next Century. Como (Italy), 5-9 June 1995.
30. Dynamics Days'95. Lyon (France), 28 June -1 July 1995.
31. XXI General Assembly of the European Geophysical Society. The Hague(The Netherlands), 6-10 May 1996.
32. VII Reunión de Física Estadística. Zaragoza, Spain, 23-25 May 1996.
33. Reunión Española sobre Procesos de Crecimiento y Fenómenos Interfaciales. Leganés, Madrid, Spain, 4-5 de July 1996.

34. Dynamics Days'96. Lyon (France), 9-13 July 1996.

35. No-Lineal 97. Avila, Spain, 10-12 April 1997.

36. Meeting of the Computational Physics Board of the European Physical Society. Palma de Mallorca, Spain, 5 September 1997.

37. VIII Reunión de Física Estadística, FISES'97. Getafe, Spain, 25-27 September 1997.

38. Patterns, non-linear dynamics and stochastic behaviour in spatially extended, complex systems (PNS'97). Budapest (Hungary), 23-28 October 1997.

39. IV Reunión anual de la Sociedad Uruguaya de Física. Piriápolis (Uruguay), 1-2 December 1997.

40. 7th Workshop on Instabilities and Nonequilibrium Structures. Valparaíso (Chile), 15-19 December 1997.

41. XXIII General Assembly of the European Geophysical Society. Nice (France), 10-24 April 1998.

42. STATPHYS 20, XX IUPAP International Conference on Statistical Physics. Paris (France), 20-24 July 1998.

43. Workshop on small-scale mixing in strongly stratified flows. Cambridge (UK), 10-12 December 1998.

44. Meeting of the Network *Nonlinear Dynamics of Spatio-temporal Selforganization*. Barcelona, Spain, 10-12 February 1999.

45. IX Reunión de Física Estadística, FISES'99. Santander, Spain, 6-8 May 1999.

46. Fifth SIAM Conference on Applications of Dynamical Systems 1999. Snowbird, Utah, USA, 23-27 May 1999.

47. European Science Foundation Study Center on *Transport in the Atmosphere and the Oceans* (TAO). Palma de Mallorca, Spain, 7 September -1 October 1999.

48. XXV General Assembly of the European Geophysical Society. Nice (France), 24-29 April 2000.

49. NoLineal2000. Almagro (Ciudad Real, Spain). 31 May -3 June 2000.

50. FISES2000, X Reunión de Física Estadística. Santiago de Compostela, Spain, 21-23 September 2000.

51. 2nd Latin American Summer School on Instabilities and Nonlinear Dynamics: Applications in Natural and Socio-Economical Systems. Valparaíso (Chile). 11-15 December 2000.

52. 1st workshop of the EU project SOFT: Satellite-based ocean forecasting. Esporles (Mallorca,Spain). 15-16 February 2001.

53. XXVI General Assembly of the European Geophysical Society. Nice (France), 25-30 March 2001.

54. Waves and Wave Turbulence. Nyborg (Denmark), 12-15 August 2001.

55. International Summer School on Dynamical Barriers, Stirring and Mixing in Geophysical Flows - Mathematical Models and Applications (GEOMIX 2001). Cargèse (France). 19 August -1 September 2001.

56. International Summer School on Atmospheric and Oceanic Sciences (ISSAOS 2001): Chaos in geophysical flows. L'Aquila, Italy. 10-14 September 2001.

57. II Meeting of the Network *Nonlinear Dynamics of Spatio-temporal Selforganization*. Barcelona, Spain, 6-8 February 2002.

58. FISES2002, XI Reunión de Física Estadística. Tarragona, Spain, 23-25 May 2002.

59. Chemical and Biological Activity in Flows (ACTIFLOW Workshops and Seminar). Dresden, Germany, 26 August -27 September 2002.

60. 2nd workshop of the EU project SOFT: Satellite-based ocean forecasting. Calanova (Mallorca,Spain). 28-30 October 2002.

61. MEDYFINOL02: XIII Meeting on Nonequilibrium Statistical Mechanics and Nonlinear Physics. Colonia del Sacramento, Uruguay, 9-13 December , 2002.

62. European Geophysical Society/American Geophysical Union Joint Assembly. Nice (France), 7-11 April 2003.

63. Alcalá 2nd International Conference on Mathematical Ecology (AICME II). Alcalá de Henares, Spain, 5-9 September 2003.

64. Kolmogorov's Legacy in Physics: One Century of Chaos, Turbulence and Complexity. Trieste, Italy, 8-12 September 2003.

65. Dynamics Days Europe 2003. Palma de Mallorca, 24-27 September 2003.

66. Minisymposium on *Interaction of biological growth and mixing processes in fluids*. Oldenburg (Germany), 29 January 2004.

67. III Jornades de la Xarxa Temàtica *Nonlinear Dynamics of Spatio-Temporal Selforganization*. Barcelona, Spain, 5-7 February 2004.

68. London Mathematical Society Meeting on 'Scalar mixing in fluid flows and mappings'. Bristol, United Kingdom, 4 May 2004.

69. Verhulst 200 on Chaos. Brussels (Belgium), 16-18 September 2004.

70. MEDYFINOL04: XIV Meeting on Nonequilibrium Statistical Mechanics and Nonlinear Physics. La Serena, Chili, 6-10 December 2004.

71. Thresholds kick-off meeting. Palma de Mallorca, Spain, 11-12 January 2005.

72. International Cross-Disciplinary Symposium on Physics and Biology. Oslo, Norway, 4-7 March 2005.

73. Eur-Oceans kick-off meeting. Paris, France, 14-15 April 2005.

74. Workshop on Network Analysis of Genetic Structures. Universidade do Algarve, Faro, Portugal, 2-3 June 2005.

75. FISES2005, XIII Reunión de Física Estadística. Madrid, Spain, 27-29 June 2005.

76. Dynamics Days Europe 2005. Berlin (Germany), 25-28 July 2005.

77. 1st Conference of the BioSim Network of Excellence. Cala Viñas (Mallorca, Spain), 6-8 October 2005.

78. IV Jornades de la Xarxa Temàtica *Nonlinear Dynamics of Spatio-Temporal Selforganization*. Barcelona, Spain, 1-3 February 2006.

79. 1st Annual Assembly of the THRESHOLDS Integrated Project. Madrid, Spain, 14-15 February 2006

80. Dynamics on Complex Networks and Applications (DYONET06 2nd week Seminar), Dresden, Germany, 27 February -3 March 2006

81. Eur-Oceans annual PIs meeting. Barcelona, Spain, 15-16 March 2006.

82. BioSim workshop. Potsdam, Germany, 24-25 April 2006.

83. FISES2006, XIV Reunión de Física Estadística. Granada, Spain, 14-16 September 2006.

84. Workshop on Social and Ecological Networks, European Conference on Complex Systems (ECCS06). Oxford, United Kingdom, 28-29 September 2006.

85. 2nd Conference of the BioSim Network of Excellence. Cala Viñas (Mallorca, Spain), 18-21 October 2006.

86. MEDYFINOL06: XV Meeting on Nonequilibrium Statistical Mechanics and Nonlinear Physics. Mar del Plata, Argentina, 4-8 December 2006.

87. 2nd Annual Assembly of the THRESHOLDS Integrated Project, Helsinki, Finland, 22-24 January 2007

88. European Geosciences Union General Assembly 2007. Vienna, Austria, 15-20 April 2007.

89. 6th International Congress on Industrial and Applied Mathematics (ICIAM07). Zürich, Switzerland, 16-20 July 2007.

90. European Conference on Complex Systems (ECCS07), and Showcase of European Complexity Science Projects. Dresden, Germany, 1-6 October 2007.

91. 3th Conference of the BioSim Network of Excellence. Potsdam, Germany, 10-12 October 2007.

92. 3th Annual Assembly of the THRESHOLDS Integrated Project, Roma, Italy, 15-16 January 2008.

93. Workshop on Dynamics and Evolution of Biological and Social Networks. Palma de Mallorca, Spain, 18-20 February 2008.

94. FISES2008, XV Reunión de Física Estadística. Salamanca, Spain, 27-29 March 2008.

95. European Geosciences Union General Assembly 2008. Vienna, Austria, 13-18 April 2008.

96. International Conference "Modelling and Computation on Complex Networks and Related Topics", Net-Works 2008. Pamplona, Spain, 9-11 June 2008.

97. Workshop on "Nonlinear processes in oceanic and atmospheric flows", NLOA2008. Castro Urdiales, Cantabria, Spain, 2-4 July 2008.

98. 4th Conference of the BioSim Network of Excellence. Budapest, Hungary. 24-26 September 2008.

99. MEDYFINOL08: XVI Conference on Nonequilibrium Statistical Mechanics and Nonlinear Physics. Punta del Este, Uruguay, 1-5 December 2008.

100. Final Assembly of the THRESHOLDS Integrated Project, Madrid, 23 March 2009.

101. BioSim workshop on Methodological Challenges for Systems Biology: linking networks, crossing scales. Venice, Italy, 30 March -3 April 2009.

102. RTRA-STAE Workshop on Geometrical and multiscale approaches for predictability and analysis of complex data in astrophysics and geophysics. Montaigut-Sur-Save, France, 18-19 May 2009.

103. EPSRC Symposium Capstone Conference. University of Warwick, United Kingdom, 30 June -3 July 2009.

104. 5th Conference of the BioSim Network of Excellence. Copenhagen, Denmark. 25-29 August 2009.

105. Lagrangian Analysis and Prediction of Coastal and Ocean Dynamics (LAPCOD) 2009. La Londe-des-Maures, France, 7-11 September 2009.

106. Thematic Institute on *Lyapunov analysis: from theory to geophysical applications*. Institut des Systemes Complèxes (ISC-PIF), Paris, France, 26-30 October 2009.

107. International Workshop on *150 Years after Darwin: From Molecular Evolution to Language*. Trends in Complex Systems series. Palma de Mallorca, 23-27 November 2009.

108. Workshop on *Exploring Complex Dynamics in High-Dimensional Chaotic Systems: From Weather Forecasting to Oceanic Flows (ECODYC10)*. Dresden, Germany, 25-29 January 2010.

109. IFISC Exploratory Workshop on *How does Information Processing emerge in the Brain?*. Palma de Mallorca, 9-10 March 2010.

110. International Workshop on *Living Organisms in Flows: From Small-scale Turbulence to Geophysical Flows (Orflow10)*. Palma de Mallorca, 7-11 June 2010.

111. 3rd Conference on Nonlinear Science and Complexity (NSC10). Ankara, Turkey, 28-31 July 2010.

112. Emergence and Design of Robustness (ROBUST). Palma de Mallorca, 21-25 September 2010.

113. Workshop on *Coherent Structures in Dynamical Systems*. Leiden (The Netherlands). 16-20 May 2011.

114. FISES2011, XVII Reunión de Física Estadística. Barcelona, Spain, 2-4 June 2011.

115. Dynamics Days Europe 2011. Oldenburg, Germany, 12-16 September 2011.

116. Reunión del Nodo Español del proyecto FuturICT. Barcelona, 5-6 October 2011.

117. Jornada de Complejidad y Nolinealidad en Geociencia. Barcelona, 6 October 2011.