Manuel Garcia **VELARDE**

CV

https://www.ucm.es/ip-1/fluidos

[Google Scholar, WoS: H-4945-2016, ORCID: 0000-0002-7806-8246, SCOPUS: 7006090691]

Manuel Garcia **VELARDE**, Almeria (España/Spain), 14 Sept. 1941/Sept. 14th, 1941.
Estado Civil/Family status: Casado/Married (esposa/wife: Maria del Pilar; hijos/children: Alberto-1966, Uriel-1969, & Esther-Adelaida-1977; grand children: Luis, Daniel, Javier & Diego).
Situacion actual/Present Professional Status: **Emeritus PROPIO Professor/Catedrático (Emérito),** Instituto Pluridisciplinar **UCM. STEAM Honorific Professor/Profesor Honorífico, Universidad Europea Madrid.**
Quinquenios docentes reconocidos: 6 (max.) (Civil Service Top Teaching Achievement award).
Sexenios investigadores reconocidos: 6 (max.) (Civil Service Top Research Achievement award).
Calificacion Comunidad de Madrid: 10 (max.) (Yearly Civil Service Top Research Achievement award).

HONOR

1. 1981 Best Teacher award, NATO ASI on NONLINEAR PHENOMENA AT PHASE TRANSITIONS AND INSTABILITIES, Geilo (Norway).
2. 1991 Premio FISICA (Investigacion cientifica), Real Academia de Ciencias Exactas, Fisicas y Naturales (Madrid).
3. 1992 Premio "Creativity", CAPIRE Foundation (Firenze/Florencia).
4. 1993 Member *Academia Europæa.*
5. 1994 Docteur *Honoris Causa*, Universite de Provence-Aix-Marseille I (France).
6. 1994 Palmes Académiques (officier, Republique Française).
7. 1996 Medaille RAMMAL (Societe Française de Physique & Fondation Ecole Normale Superieure).
8. 2000 Member Real Academia de Doctores (Spain).
9. 2002 *Festschrift* (60th birthday) “Spatio-Temporal Complexity” (Editor: G. Nicolis) Special Issue: *International Journal of Bifurcation and Chaos* **12** (2002) 2305-2653.
10. 2003 Premio *DuPont* de la Ciencia (Spain & Portugal).
11. 2003 Uva de Oro/Gold Grape (Casa de Almeria y de la Alpujarra en Madrid/ Almeria in Madrid).
12. 2006 “Medalla”, Real Sociedad Española de Fisica/Medal of Spanish Physical Society.
13. 2009 “Paul Harris Fellow”, Medal of Foundation Rotary International.
14. 2010 Doctor *Honoris Causa*, Chernyschevsky Saratov State University (Russia)
15. 2013 *Festschrift* (70th birthday) “Without Bounds: A Scientific Canvas of Nonlinearity and Complex Dynamics”, Springer-Verlag, Berlin, 801 pp., (Editors: R. G. Rubio, Yu. S. Ryazantsev, V. M. Starov, G.-X. Huang, A. P. Chetverikov, P. Arena, A. A. Nepomnyashchy A. Ferrus, E. G. Morozov)
16. 2013 Ordre N. Merite (*officier*, Republique Française).
17. 2014 *Festschrift* (70th birthday) Advances in Colloid and Interface Science, vol 206 (April 2014), Elsevier, Amsterdam, 436 pp. (editors: R. Miller, R. G. Rubio, V. M. Starov).
18. 2014 Member European Academy of Sciences (EURASC).
19. 2015 Blaise PASCAL Medal, (Physics) EURASC.
20. 2059 International Center for Mecahnical Sciences-CISM (Udine, Italy) 50th Anniversary Medal.
21. 2019 Doctor *Honoris Causa*, Universidad de Almeria (Spain).

EDUCACION/EDUCATION

(i) Universidad Complutense de Madrid (Spain) 1959-1963: Licenciatura en Ciencias Fisicas/ PHYSICS (Graduate and M. Sc.).
(ii) Universidad Complutense de Madrid (Spain) 07-11-1968: Doctor en Ciencias Fisicas (equivalent to Ph. D.), "Sobresaliente *cum laude*". Director: M. Castans (deceared). Presidente Tribunal: F. Navarro Rorras (deceased).
iii) UnIversite Libre de Bruxelles (Belgique) 20-01-1970: Docteur en Sciences Physiques (aquivalent to Ph. D.), "Avec la *plus grande* distinction". Director: P. Resibois (deceased). President Jury: I. Prigogine (deceased).

RESEARCH AND/OR EXPERIENCE/POSITIONS HELD/EXPERIENCIA (docente e/o investigadora un mes o mas)

A. Professional career

1. **1963-65** Universidad Complutense (Madrid) Ayudante/Instructor/Teaching Assistant "Mecanica Teorica" (4º Fisicas) & Ayudante/Instructor/Teaching Assistant "Ecuaciones Diferenciales (Analisis Matematico)" (3º Fisicas).
2. **1963-65** Junta de Energia Nuclear, Division de Fisica Teorica (Madrid): Becario predoctoral.
3. **1964-65** Escuela Tecnica Superior de Arquitectura (Madrid): Prof. Encargado de curso “Fisica".
4. **1965-69** Universite Libre de Bruxelles (Belgica): Ph. D./Doctorando (1965-68) & Chercheur (1968-69).
5. **1969-71** University of Texas at Austin (EE.UU.): Faculty Associate (Center of Excellence, National Science Foundation, EE.UU.) equivalent to Assistant Professor.
6. **1970** University of Montana at Bozeman (EE.UU.): Investigador Visitante/Guest Researcher (National Science Foundation), July-August.
7. **1971-80** Universidad Autonoma de Madrid: Profesor Agregado/Associate Professor, Catedratico/(Full) Professor [20-3-1979] ("Termologia/Termodinamica Estadistica" & "Mecanica Estadistica"/Statistical Physics) & Director-fundador Departamento de "Fisica de Fluidos"/**Chairman & founder Department of Fluid Physics**.
8. **1979-93** U.N.E.D./Spanish Open University: Catedratico/Full Professor & Director **founder** Departamento de "Fisica Fundamental" (1979-87; Julio 1980 traslado oficial de la Universidad Autonoma de Madrid).
9. **1993-2011** Universidad Complutense de Madrid: (PROPIO) Professor of Physics/Catedratico de Fisica Aplicada. Director Unidad de Fluidos y cofundador/**co-founder Instituto Pluridisciplinar**. 1997-98; 2008-11, Director Institute (Civil Service/Registro: 01EC1888 (30-3-79)/ 2713014468A0500).
10. **1993-96** ATENEO Cientifico, Artistico y Literario de Madrid (1993 y 1994 Fundacion del BBV, Director CATEDRA FISICA/BBV Foundation Chair for Science for the Lay audience.

B. Invited/Visiting positions, etc

1. 1972-73 Universitet i Trondheim-N.T.H. (Noruega), Institutt for Teoretisk Fysikk: Guest Researcher (Norges Allmennvitenskapelige Forskningsrad), December 1972-January 1973.
2. 1974 Universite Paris XI, Orsay (Francia), Physique Theorique: Chercheur etranger invite (C.N.R.S.), January.
3. 1974 Universite Paris VI (Francia), Physique Theorique des Liquides: Professeur invite, November-December.
4. 1974 C.E.N. Saclay (Francia), Physique Theorique, Orme des Merisiers: Chercheur etranger invite (comme Ingenieur), November-December.
5. 1975 Universitet i Trondheim-N.T.H. (Noruega), Institutt for Teoretisk Fysikk: Guest Researcher (Norges Allmennvitenskapelige Forskningsrad), July-November.
6. 1976 University of London (U.K.), Chemistry Department, Chelsea College: Visiting Research Associate; Mathematics Department, Imperial College: Guest Researcher, July-August.
7. 1976-80 Universite de Provence (Aix-Marseille I) (Francia): Invited Professor (A.T.P. Internationale C.N.R.S.). One or several months per year over a five-year period.
8. 1978 Universitet i Trondheim-N.T.H. (Noruega), Institutt for Teoretisk Fysikk: Invited Professor (Norges Allmennvitenskapelige Forskningsrad), July-November.
9. 1984 Universite Aix-Marseille II (Francia), Institut de Mecanique des Fluides: Professeur invite, January-February.
10. 1984-94 Los Alamos National Laboratory, N. M. (EE. UU./USA): Consultant. Several weeks or months per year.
11. 1985 Universite de Grenoble (Francia): Professeur invite, May.

12. 1986 University of Science and Technology (HUST, Wuhan, Huazhong, Central China, Rep. Pop. China): Invited Lecturer (20h-Lecture Series on Hydrodynamic Instabilities), January.
13. 1988 University of Sofia (Bulgaria), Centennial/Centenario de la Universidad: Invited Lecturer, December.
14. 1989 Universidad de Paris-VI (Francia): Professeur invite, May.
15. 1990 Stanford University (EE.UU.): Guest Researcher (Consultant), September.
16. 1993 Stanford University (EE.UU.): Guest Researcher (Consultant), August.
17. 1995 Universite Aix-Marseille III (Francia): Professeur invite, November.
18. 1996 Cambridge University (U.K.), DAMPT: (BBV Foundation) Visiting Professor, April-June.
19. 1997 University of California, Berkeley (EE.UU.): Visiting Scientist (Consultant), August-September.
20. 2000 Universite de Marne-La Vallee, Paris (Francia): Professeur invite, April.
21. 2000 Universite Libre de Bruxelles (Belgica): Professeur invite, November.
22. 2002-05 International Center for Mechanical Sciences (CISM, Udine, Italia): Rector.
23. 2006 Universite Libre de Bruxelles (Belgica): Chaire Internationale, March.
24. 2006 University of California, Santa Barbara (EE.UU.): Del Amo Visiting Scholar & Visiting Professor, June-August.
25. 2007 East China Normal University (Shanghai): Visiting Professor, July.
26. 2011 Wessex Institute of Technology (WIT, Southampton, UK): Adjunct Professor.
27. 2012 University of California, Irvine (EE.UU.): Del Amo Visiting Scholar, July-August.

N.B.: I have also been doing research and/or delivering lectures/seminars in several other Institutions for periods of one to two weeks (collaboration agreements or short-research grants using Bilateral Treaties, NATO CRGs, EU Grants, Volkswagen Stiftung grant, etc.).

ADVISORY OR CONSULTANCY BOARD OF LABORATORIES OR SOCIETIES, COMMITTEE MEMBERSHIP/COMITES INTERNACIONALES, etc.

1. Consultant LOS ALAMOS National LAB-CNLS (New Mexico, USA., under contract: 1984-1994).
2. Committee "Liquids", EPS (1982-1994, **co-founder**).
3. MEC: Comision de Reforma de la Educacion 10-16 anos, Madrid (1983).
4. ESA: European Space Agency, Committee "Materials & Fluids in Microgravity" (1986-88), "Surface Phenomena" (1990-1993) & Peer Reviewer.
5. IUPAP Commission C3 "Statistical Physics" (1987-1993).
6. Internat. Centre Heat & Mass Transfer, Scientific Council, Ankara, Turkey (1987, several years).
7. CERET, Centre Europeen de Thermodynamique-Paris (1990-94, **co-founder**).
8. NATO, Panel Member "Chaos, Order and Patterns: Aspects of Nonlinearity" (1990-1993).
9. Association Recherche et Environnement, Aix-Marseille, Conseil Administration, (1993-several years, **co-founder**).
10. EEC-Commission, Human Capital & Mobility, Panel member (Physics) Bruselas (1992-1994).
11. European Low Gravity Research Association, Consultant: ELGRA-White Book European Low-Gravity Physical Sciences in Retrospect and in Prospect, Author: Fluid Physics & Critical Phenomena chapters (1994-1995).
12. ESA-MAC: Microgravity Advisory Committee (1994-1997).
13. ELGRA, Vicepresident (1995-97), President (1997-1999).
14. EU, Training and Mobility of Researchers, Panel Member (Physics: Fellowships & Networks) Bruselas (1995).
15. Association for the *Collegium Catedra* FBBV, President (1999).
16. International Centre for Mechanical Sciences (CISM), Udine, Scientific Council (2002-present).
17. International Union of Theoretical and Applied Mechanics, IUTAM Conference Committee (2002-2010).

18. *Academia Europæa*, Council (2002-2008)**.**
19. European Science Foundation (ESF)-European Space Science Committee (ESSC) (2006-2009).
20. Real Academia de Doctores (Spain), Presidente/Chair Seccion Ciencias Experimentales (2007-2009).
21. International Center “Nonlinear Dynamics and Complex Systems”, Pescara, Scientific Council (2009) (ceased to exist).
22. Comité Ciencias Experimentales, Agencia Calidad Universitaria ACUM, Castilla-La Mancha (Presidente, 2007-2009).
23. Comité Internacional Expertos Evaluación de la Física en la Universidad Libre de Bruselas (2009).
24. Jurado Internacional Evaluación Laboratorios de Excelencia en Francia (LABEX Jury), President (2010-2011).
25. Jurado Internacional Evaluación de Campus de Excelencia (IDEX Jury) (2011).
26. Jurado Evaluación AERES Laboratorio PMMH (ESPCI), Paris, Presidente (2012)
27. International Steering Committee/Comité d’Orientation Scientifique, Université Aix-Marseille (2015)
28. HCERES (Francia), Comité d’Evaluation Université Bretagne Occidentale (UBO) (2016)
29. ESF College of Expert Reviewers (2016-present)

EDITORIAL/ADVISORY BOARDS/COMITES EDITORIALES (Past membership-various time periods/Ha sido miembro-diversos periodos temporales)

1. Journal of Non-Equilibrium Thermodynamics
2. International Journal of Heat and Mass Transfer
3. Letters in Heat and Mass Transfer
4. Journal de Physique
5. Journal de Physique-Lettres
6. Reports on Mathematical Physics
7. Physicochemical Hydrodynamics (**co-founder**)
8. Applied Mechanics Reviews (reviewer)
9. Revista Española de Fisica
10. Portugaliae Physica
11. Anales de Fisica
12. Nonlinear Processes in Geophysics (**co-founder**).
13. International Journal Bifurcation and Chaos
14. Revue Marocaine des Sciences Physiques
15. Synergetics Series, Springer-Verlag, Berlin
16. Comptes Rendus de l'Academie des Sciences, Serie II b (Mecanique) Paris
17. European Physics Journal, Special Topics (Discussion & Debate, **co-founder**)

"Referee" or "(peer) reviewer" of several scientific journals, research projects (NSF-USA, NASA, ESA, CEE-EU, NATO, etc.), University appointments (several universities in Europe and in the USA)/Juez de varias revistas internacionales y en numerosisimas ocasiones, de proyectos de investigacion de diversas Agencias; Miembro o Presidente de Tribunal de Tesis Doctoral y de nombramiento-promocion profesorado, particularmente en España, Francia, EE.UU. y U.K.

PROFESSIONAL SOCIETIES/SOCIEDADES CIENTIFICAS Present membership: *Academia Europaea* (AE), European Academy of Sciences (EURASC), Real Academia de Doctores de España (RADE).

CHAIRPERSON-DIRECTOR-ORGANIZER/DIRECTOR-PRESIDENTE COMITE INTERNACIO NAL

1. 1972 Workshop/Reunion STATISTICAL PHYSICS/FISICA ESTADISTICA, Sevilla, April (organizer and speaker).

2. 1976 Summer School and Workshop/Escuela-Reunion Hispano-Francesa, FISICA DE FLUIDOS, Sevilla, September (with P. G. de Gennes).
3. 1980 3rd Int. Conference, PHYSICOCHEMICAL HYDRODYNAMICS, Madrid, April.
4. 1983 NATO Advanced Study Institute, NON-EQUILIBRIUM COOPERATIVE PHENOMENA IN PHYSICS AND RELATED FIELDS, El Escorial, August (with F. T. Arecchi & M. O. Scully).
5. 1986 International Symposium/Jornadas Internacionales, FLUID PHYSICS/ FISICA DE FLUIDOS, Fundacion Ramon Areces, Madrid, May.
6. 1986 NATO Advanced Study Institute and 2nd EPS LIQUIDS SECTION International Conference, PHYSICOCHEMICAL HYDRODYNAMICS: INTERFACIAL PHENOMENA, La Rabida, Huelva, July.
7. 1987 Workshop/Jornadas, FLUID PHYSICS/FISICA DE FLUIDOS, Cordoba, June.
8. 1987 International Symposium/Jornadas Internacionales, SYNERGETICS, ORDER & CHAOS (to honor Prof. Dr. H. HAKEN), Fundacion Ramon Areces, Madrid, October.
9. 1990 UCM-Summer School/Curso de verano, Universidad Complutense, PROGRESS IN FLUID PHYSICS, Aguadulce (Almeria), August.
10. 1990 Int. Symposium/Jornadas Internacionales, PHYSICOCHEMICAL HYDRODYNAMICS/ FISICOQUIMICA DE FLUIDOS, Fundacion Ramon Areces, Madrid, October.
11. 1991 UNED-Summer School/Curso de verano, FISICA PARA TODOS: COMPLEJIDAD, ORDEN Y CAOS EN LA NATURALEZA, Avila, July.
12. 1991 UCM-Summer School/Curso de verano, Universidad Complutense, HYDRODYNAMIC INSTABILITIES AND INTERFACIAL PHENOMENA, Aguadulce (Almeria), August.
13. 1992 UCM-Summer School/Curso de verano, Universidad Complutense, WAVES, Aguadulce (Almeria), July.
14. 1992 4th. IUPAP-Int. Conference TEACHING MODERN PHYSICS. STATISTICAL PHYSICS, Badajoz, July.
15. 1993 Int. Symposium/Jornadas Internacionales, INTERFACIAL PHENOMENA ON EARTH AND IN SPACE, Madrid, February.
16. 1993 UCM-Summer School/Curso de verano, Universidad Complutense, TURBULENCE, Aguadulce (Almeria), July.
17. 1994 Summer School/Curso de verano (para profesores de Bachillerato/for High School teachers), ATENEO de Madrid e Instituto de Bachillerato "Cervantes", Laboratorio Multimedia en la Enseñanza de la Fisica (Optica con Laser, LAO, Experimentos con peliculas), July.
18. 1994 Summer School/Curso de verano (para profesores de Bachillerato/for High School teachers), ATENEO de Madrid, CAOS Y FRACTALES, July.
19. 1994 UIMP-Summer School/Curso de verano, Universidad Internacional "Menendez Pelayo" (UIMP), PCH School: CHAOS AND TURBULENCE, Santander, September (with A. Linan).
20. 1994 European Low Gravity Research Association (ELGRA) XIIIth Assembly, Madrid, December (as Chairman Organizing Committee).
21. 1995 UIMP-Summer School/Curso de verano, Universidad Internacional "Menendez Pelayo" (UIMP), PCH School: EXPERIMENTAL TECHNIQUES AND NUMERICAL METHODS, Santander, July (with A. Linan).
22. 1995 UCM-Summer School/Curso de verano, Universidad Complutense, POLYMERIC MATERIALS: PHYSICS, CHEMISTRY AND HYDRODYNAMICS, Aguadulce (Almeria), July (with E. Riande).
23. 1995 International Symposium/Jornadas Internacionales, CHAOS AND FRACTALS. THE NEW PARADIGM, Fundacion Ramon Areces, Madrid, December.
24. 1996 UIMP-Summer School/Curso de verano, Universidad Internacional "Menendez Pelayo" (UIMP), PCH School: DROPS, BUBBLES AND FILMS, Santander, September.
25. 1997 Joint Xth European and VIth Russian Symposium, Physical Sciences in Microgravity, St. Petersburg-Kijy Island (on ship), Russia, June (with V. I. Polezhaev, Russia, and F. Rosenberger, USA).
26. 1997 EU Network Workshop, PATTERNS, WAVES AND DEFECTS, Coordinator and lecturer, Madrid, July-August.

27. 1997 Summer School & Workshop/Curso de verano, Gulbenkian International Advanced Course INTRODUCTION TO DYNAMICAL SYSTEMS: THEORY FOR BIOSCIENCE STUDENTS, Porto (Portugal), August.
28. 1998 EU Network Workshop, FROM UNITS TO SYNERGETICS IN NEUROBIOLOGY, Coordinator and lecturer, Madrid, February.
29. 1998 UNESCO sponsored Spring School & Workshop, FLUID PHYSICS AND NON LINEARITY, Marrakech (Morocco), April (with M. Belhaq & E. Guyon).
30. 1998 EU Network Workshop, TIME SERIES ANALYSIS, DATA PROCESSING, DELAY PROBLEMS, NONLINEAR WAVES, STOCHASTIC PROCESSES, ETC. IN NEUROBIOLOGY AND OTHER REALMS OF SCIENCE, Coordinator and lecturer, Madrid, May**.**
31. 1998 Workshop, INTERNAL WAVES IN THE ALBORAN SEA, THE STRAIT OF GIBRALTAR AND OTHER STRATIFIED MEDIA, Madrid, July.
32. 1998 IUPAP-XX SATELLITE Workshop, INTERFACIAL PHENOMENA, Madrid, July.
33. 1998 EU Network Workshop, LATTICE DYNAMICS, NEURAL NETWORKS & BRAIN DYNAMICS, Madrid, November.
34. 1998 EU Network Workshop, INTERFACIAL PHENOMENA, Madrid, November-December.
35. 1999 European Low Gravity Research Association (ELGRA) Biennial Meeting and General Assembly, Roma, March (as ELGRA President).
36. 1999 1st Symposium Catedra FBBV "Permeability of Ideas and Human Knowledge", Madrid, April (with J. Urrutia).
37. 1999 EU-Network & UCM-Summer School/Curso de verano, NONLINEARITY: PATTERNS AND DEFECTS, SOLITONS, CHAOS AND TURBULENCE, El Escorial (Madrid), July.
38. 1999 UIA-Summer School/Curso de verano, PHYSICOCHEMICAL HYDRODYNAMICS, La Rabida (Huelva), August (with C. Gallegos).
39. 1999 Workshop, DYNAMICAL SYSTEMS, CEREBELLAR DYNAMICS AND (NEURO) ROBOTS, Madrid, October.
40. 1999 Workshop, INTERFACIAL PHENOMENA AND DIMENSIONLESS GROUPS, Madrid, December.
41. 2000 Workshop, DYNAMICAL SYSTEMS AND NEUROINSPIRED ROBOTS, Madrid, March.
42. 2000 Workshop, DISSIPATIVE SOLITONS, NONLINEAR EXCITATIONS (lattices, etc.) AND HIGH-T SUPERCONDUCTIVITY, Madrid, June.
43. 2000 CISM-Summer School/Curso de Verano, INTERFACIAL PHENOMENA, THE MARANGONI EFFECT, INSTABILITY, WAVES AND CONVECTIVE FLOWS, Udine (Italy), July (with R. K. Zeytounian).
44. 2000 Ciclo de Conferencias, PROCESOS FISICOQUIMICOS REACTIVOS-DIFUSIVOS E INNOVACIONES EN EL TRATAMIENTO DE INFECCIONES OSEAS EN CIRUGIA ORTOPEDICA, Real Academia de Doctores, Madrid, November (with C. Rueda).
45. 2001 Workshop, NONLINEAR DYNAMICS (LATTICES, WAVES, INSTABILITIES AND FLUCTUATIONS), Madrid, January.
46. 2001 EU ICOPAC Network & UCM Summer School & Workshop/Curso de verano, INTERFACIAL PHENOMENA: WETTING AND SPREADING OF LIQUIDS, El Escorial (Madrid), July (with R. Glez. Rubio).
47. 2002 Workshop, NEURONAL FLOWS, MOTRICITY AND NEUROINSPIRED ROBOTS, Madrid, March.
48. 2002 EU-Workshop, FALLING FILMS AND NONLINEAR LONG WAVES, Madrid, December.
49. 2003 Workshop, FALLING FILMS, WETTING AND SPREADING PROCESSES, Madrid, August.
50. 2004 Workshop, STOCHASTIC NONLINEAR LATTICE DYNAMICS, Madrid, March.
51. 2004 Workshop, PHYSICOCHEMICAL PROBLEMS OF THE COFFEE EXPRESSO BEVERAGE, Madrid, March.
52. 2004 Workshop, MODELLING NEURODYNAMIC PROCESSES, Madrid, April.
53. 2004 Workshop, SUPERCONDUCTIVITY IN NONLINEAR LATTICES, Madrid, August.

54. 2005 EU Network Workshop, SPATIAL TEMPORAL PATTERNS FOR ACTION-ORIENTED PERCEPTION IN ROVING ROBOTS, Madrid, January.
55. 2005 Workshop, SOLITONS IN ANHARMONIC LATTICES, Madrid, February.
56. 2005 Workshop, SPREADING DYNAMICS (SURFACTANTS, ETC.), Madrid, March.
57. 2005 Workshop, FALLING FILMS, Madrid, April, August & November.
58. 2005 Workshop, STOCHASTIC TRANSPORT AND ACTIVE BROWNIAN MOTORS, Madrid, May.
59. 2005 Workshop, INTERFACIAL PHENOMENA, PATTERNS AND WAVES, Madrid, August.
60. 2005 Workshop, POLYMERS AT SURFACES, Madrid, September.
61. 2005 Workshop, SOLITONS, NONLINEAR CONDUCTION AND NONLINEAR PLASMAS, Madrid, October.
62. 2005 Workshop, FILM FLOWS, Madrid, November.
63. 2006 Workshops, ANHARMONIC TRANSPORT PROCESSES, Madrid, January, Apil & October.
64. 2006 Workshop, FILM FLOWS, Madrid, May.
65. 2007 Workshop, PROCESOS INTERFACIALES NO LINEALES, Madrid, February.
66. 2007 Workshops, ANHARMONIC DYNAMICS AND SUPERSONIC ELECTRIC TRANSPORT, Madrid, February, April & August.
67. 2007 Workshops, NONLINEAR PROBLEMS IN ELECTRON TRANSPORT, Madrid, November/December.
68. 2008 Workshops, NONLINEAR PROBLEMS IN ELECTRON TRANSPORT, Madrid, April & July.
69. 2008 EU & SPARK Summer School/Curso de Verano, NONLINEAR DYNAMICS AND ROBOTS: FROM NEURONS TO COGNITION, El Escorial (Madrid), August.
70. 2008 Workshops, NEURODYNAMICS AND ROBOTS, Madrid, September & December.
71. 2009 Workshop, BIPOLARONS, SOLECTRONS, ELECTRON PAIRING AND SUPERCONDUCTIVITY, Madrid, February.
72. 2009 Workshop, ANHARMONIC LATTICES IN ONE-DIMENSION AND TWO-DIMENSIONS, Madrid, April.
73. 2009 Workshop and International Conference, NONLINEAR DYNAMICS, Pescara (Italy), July.
74. 2009 EXPLORA Workshop, MARCUS THEORY OF ET AND TUNNELING PROCESSES, Madrid, November.
75. 2010 EXPLORA Workshop, SUPERCONDUCTION AT ROOM TEMPERATURE? Madrid, February.
76. 2010 EXPLORA Workshop, PERCOLATION IN TWO-DIMENSIONAL LATTICES, Madrid, April.
77. 2010 MULTIFLOW SUMMER SCHOOL (MARIE CURIE TRAINING SCHOOL), El Escorial, June.
78. 2010 EXPLORA Workshop, BCS-BCE CROSS-OVER PHENOMENA, Madrid, August.
79. 2010 EXPLORA Workshop, NONLINEAR (1D-2D) LATTICE SOLITONS, Madrid, November.
80. 2011 EXPLORA Workshop, SOLITONS IN HEATED LATTICES, Madrid, January.
81. 2011 EXPLORA Workshop, MULTISOLITONS IN ANHARMONIC LATTICES, Madrid, April.
82. 2011 EXPLORA Workshop (7-10) and WEEK OF SCIENCE (12-16), Madrid, September.
83. 2011 Workshop, LATTICE DYNAMICS AND SOLITON-ASSISTED ELECTRIC CONDUCTION, December.
84. 2012 Workshop, OHMIC AND NON-OHMIC POLYMER CONDUCTION, Madrid, January-February.
85. 2012 Workshop, SOLITONS IN 2D LATTICES, Madrid, April.
86. 2012 Workshop, ELECTRON TRANSPORT, Madrid, June.
87. 2012 Workshop, SOLITONS IN 2D LATTICES, Madrid, September.
88. 2012 Workshop, ET IN SYNTHETIC DNA, PDA AND RELATED POLYMERS, December.
89. 2013 Workshop, ELECTRON SURFING AND ZERO RESISTANCE POLYMER CONDUCTORS, Madrid, February.

90. 2013 Workshop, SOLECTRON THEORY AND POSSIBLE APPLICATIONS, Berlin, April.
91. 2013 Workshop, ANHARMONIC SYSTEMS (DISCRETE AND CONTINUUM APPROACHES) AND SUPERSONIC LOSS-FREE TRANSPORT, Madrid, September.
92. 2013 Workshop, MOLECULES, ELECTRONS AND APPLICATIONS OF THE SOLECTRON THEORY TO PDA POLYMERS, Madrid, December.
93. 2014 Workshop, SUBSONIC AND SUPERSONIC ET IN DNA, Madrid, January.
94. 2014 Workshop, BOUNDS STATES AND ELECTRON TRANSFER, Madrid, April.
95. 2014 Workshop, COMPUTACION DE TRANSPORTE A NIVEL NANO-METRICO, Madrid, August.
96. 2014 Workshop, LATTICE DISCRETNESS AND LOCALIZED EXCITATION, Madrid, November.
97. 2015 Workshop, LONG RANGE FAST ELECTRON TRANSFER IN DNA AND OTHER BIOMATERIALS, Madrid, February.
98. 2015 Workshop, SFET-SOLECTRON FIELD EFFECT TRANSISTOR, Madrid, April
99. 2016 Int. Symposium THE SOLITON CONCEPT AND ITS INTER-, TRANS- AND PLURI-DISCIPLINARY UBIQUITY: TRUTH AND CONSEQUENCES FROM THE MACRO- TO THE NANO-WORLD, Fundación Ramón Areces, Madrid, November
100. 2019 Autumn Science days, Universidad de Almeria, September (with A. Fdez Barbero)

Ph.D. THESES/TESIS DOCTORALES (DIRECTOR/SUPERVISOR):
UNIV. COMPLUTENSE (5), UNIV. AUTONOMA MADRID (2), U.N.E.D. (16), HUMBOLDT UNIV. BERLIN (1).
MASTER THESES/TESINAS (DIRECTOR/SUPERVISOR: UNIV. AUTONOMA MADRID (14).

VARIA (PLACES WHERE -generally by invitation- I HAVE DELIVERED LECTURES, SCIENTIFIC COLLOQUIA & SEMINARS IN SPAIN AND OTHER COUNTRIES/ INSTITUCIONES, ESCUELAS, LUGARES, ETC. DONDE HE IMPARTIDO SEMINARIOS O CONFERENCIAS, generalmente por invitacion)
0. **Schools/Conferences Plenary Speaker/Lecturer:** Les Houches (France), E. FERMI-Varenna (Italy), SYNERGETICS-Elmau (Germany), NATO-ASI-Geilo (Norway), GULBENKIAN-Porto, GULBENKIAN-Lisboa & Arrabida (Portugal), CISM-Udine (Italy), IUPAP (Statphys)-Xiamen (PR China), EPS (Liquids)-various places, Dynamics Days-Como (Italy), EUROMECH-Cambridge (UK), EUROTHERM-Delft (Holland), CERET-Compiegne (France), GORDON Conference-Plymouth (USA), UIMP-Santander (Spain), UIA-La Rabida (Spain), UCM-El Escorial (Spain), etc.
1. Participant all over the world at several hundred scientific meetings, generally by invitation as a speaker or as chairperson/He asistido a varios centenares de reuniones cientificas internacionales en las que (salvo contados casos) he sido conferenciante invitado o presidente sesion.
2. Miembro del Comite Cientifico Internacional (Programme Committee, Advisory Board, etc) de numerosas Reuniones Internacionales.
3. Invited Research Seminars, Colloquia & other Lectures/Sobre mi trabajo he dado conferencias y seminarios cientificos en Universidades y Centros de Investigacion en:
   i. **Espana-Spain** (numerosas veces en centros de investigacion y universidades).
   ii. **Europe** (**Alemania**: Free Univ. & T. U. Berlin-Oeste y Humboldt U.-Berlin-Este, Rostock, Bremen, Karlsruhe, Kiel, Hamburg, Bayreuth, Koln, Dusseldorf, Stuttgart, Munich, Schloss Elmau, Tubingen, Gottingen, Wiesbaden; **Austria**: Vienna, Linz; **Belgica**: ULB, Academie des Sciences, von Karman Inst.-Bruselas, Mons, Liege, Louvain; **Bulgaria**: Sofia; **Checo-eslovaquia**: Praga; **Dinamarca**: Copenhague, Lyngby, Odense; **Francia**: CEN-CEA-Saclay, Paris-Orsay, Paris VI, Paris VII, EPC-Paris, ENS-Paris, Poitiers, Compiegne, Grenoble, Rouen, Montpellier, Les Houches, Lyon, Menton, Marseille, Isle Embiez, Toulouse, Bordeaux, Estrasburgo, Nice, Poitiers, Peyresq; Grecia: U. P. Atenas, U. Patras, Olympia, Heraclion; **Holanda**: Delft, Inst. Lorentz-Leiden, Amsterdam, ESTEC-ESA-Norwick, Wageningen; **Hungria**: Budapest, Balaton; **Italia**: Roma, Milano, Florencia, Trieste, Pisa, Varenna, Como, Messina, Napoles, Udine, Sorrento, Catania; **Polonia**: Varsovia; **Portugal**: Lisboa, Porto, Covilha, Arrabida Monastery; **Suiza**: Ginebra, ETH-

Lausanne, Zurich; **Noruega**: NTH-Trondheim, Kristiansand, Grimstad, Geilo, Oslo; **Suecia**: RIT-Estocolmo, Uppsala; **U.K.**: Imperial College-Londres, Chelsea College-Londres, University College-Londres, Oxford, Cambridge, Aberdeen, Bristol, Edimburgo, Royal Radar E.-Malvern, Lancaster, Sheffield, Warwick-Coventry, Canterbury).

iii. **EE.UU**.-**USA** (Ann Arbor-Michigan, Austin-Tx, Houston-Tx, Lubbock-Tx, San Angelo-Tx, MIT-Cambridge, Harvard-Cambridge, Boston, Bozeman-Montana, CNLS-Los Alamos, UF-Gainesville, U. Miami-Coral Gables, FAU-Boca Raton, Stanford, UC-San Diego, UC-Santa Barbara, UC-Berkeley, UC-Santa Cruz, UCLA, CALTECH-Pasadena, Salt Lake City-Utah, Iowa Univ.-Iowa City, Hydraulic Inst.-Iowa City, Boulder-Co., Laramie-Wyoming, Tucson-Arizona, Haverford College-Philadelphia, Bryn Mawr College-Philadelphia, Temple Univ.-Philadelphia, UP-Philadelphia, Rochester, Boston, Yeshiva Univ.-NY, Courant Inst.-NY, Columbia-NY, City College-NY, Rockefeller-NY, IBM-Yorktown Heights, Bell Labs-Murray Hill, Yale-New Haven, Case Western-Cleveland, Univ. Chicago, IIT- Chicago, Northwestern-Evanston, NBS-Washington DC, NRL-Washington DC, National Academy of Sciences-Washington DC, NPS-Monterey, UNM-Albuquerque, Sandia Lab.-Albuquerque, Rochester, Miami-Coral Gables, Rutgers U., NRL-Orlando, NORDA-Louisiana, College Park-Maryland, Washington U.-St. Louis-Missouri, etc).

iv. **Mexico** (UNAM-Mexico DF, Jalapa); **Colombia** (CIF-Bogota); **Argentina** (Buenos Aires, La Plata); **Chile** (Santiago, Valparaiso).

v. **Canada** (Montreal, Ottawa).

vi. **Far East** (**Republica Popular China**: Academia Sinica-Inst. Theoret. -Phys. Beijing, Inst. Atmospheric Phys.-Beijing & Normal Univ.-Beijing, North W. U.-Xian y HUST-Wuhan, Xiamen, Normal Univ.-Shanghai, Fudan Univ.-Shanghai; **Corea**: Seoul, KAIST-Taejon; **Japan**: Tokyo Univ., Science Univ. Tokyo, Kyoto Univ., Chubu Univ., Kyushu Univ.-Fukuoka; **Hong-Kong**: Science & Technology Univ., Polytechnic Univ.).

vii. **Israel** (Tel Aviv, Technion-Haifa).

viii. former **USSR-Russia** (Inst. Landau-Moscow, Inst. Lebedev-Moscow, Inst. Problems Mechanics-Moscow, Lomonosov Univ.-Moscow, Physico Techn. Inst.-Moscow, Inst. Steklov-Leningrado/St. Petersburg, Kiev, Inst. Biophysics, Pushchino).

ix. **Africa** (**Marruecos**: Rabat, Casablanca, Marrakech).

4. Lay audience:

a) “La Barraca de la Ciencia: A Decade of Science for the People in Spain" and beyond. Almost a thousand public lectures in Spain (touring the country with a car with trolley bringing lab equipment) and a few places abroad/Como educador/divulgador de la Ciencia he dado casi un millar de conferencias tanto en España como en algunos centros del extranjero, muchas de ellas ilustradas con experimentos y multimedia ("La Barraca de la Ciencia").

b) “Toccare l’aria e sentire la terra tremare”: Scientific training Project for (10-12 years old) youngsters in the schools of the province of Udine (Friuli-Venezia Giulia)/Ciencia experimental como ntroducción a la investigación de escolares 10-12 años en la Ciudad de Udine (Región Autónoma Friuli-Venezia Giulia, Italia) Sponsored by/Patrocinado por: Rotary Clubs (3), Lions Clubs (5), Inner Wheel Rotary, Fidapa, Soroptimist, Round table, Club Unesco, Panathlon, Consiglio Regionale FVG and ARPA-OSMER FVG.

5. Listado (con biografia) en los libros de referencia: WHO IS WHO IN THE WORLD (Marquis, USA), WHO IS WHO IN SCIENCE (Longmans, UK), Wikipedia (Español, English), etc.

PATENT

2020. SOLECTRON FIELD EFFECT TRANSISTOR (SFET) AND INVERTER. UK PATENT **GB 2533105** (certificate of grant May 20, 2020). Co-inventors: M. G. VELARDE (Spain) and E. G. WILSON (UK).

PUBLICATIONS/PUBLICACIONES-BOOKS/LIBROS

A. AUTHOR/AUTOR

RESEARCH MONOGRAPHS/LIBROS DE INVESTIGACION

1. 2001. **Nonlinear Dynamics of Surface Tension-Driven Instabilities**, Wiley-VCH, N. Y., 512 pp., ISBN 3-527-40291-8 (with P. Colinet & J. Cl. Legros).

2. 2002. **Interfacial Phenomena and Convection**, Chapman & Hall/CRC, Pitman Series, Boca Raton & London, 365 pp., ISBN 1-5848-8256-5 (with A. A. Nepomnyashchy & P. Colinet).
3. 2002. **Synergetic Phenomena in Active Lattices (Patterns, Waves, Solitons, Chaos)**, Springer-Verlag, Synergetic Series, Berlin, 357 pp., ISBN 3-540-42715-5 (with V. I. Nekorkin).
4. 2003. **Liquid Interfacial Systems. Oscillations and Instability**, M. Dekker, N.Y., Surfactant Science Series, 367 pp., ISBN 0-8247-4295-8 (with R. V. Birikh, V. A. Briskman & J. Cl. Legros).
5. 2007. **Wetting and Spreading Dynamics**, Taylor & Francis/CRC (formerly M. Dekker), N.Y., Surfactant Science Series, 544 pp., ISBN 1-5744-4540-5 (with V. M. Starov & C. Radke).
5 (bis). 2019. **Wetting and Spreading Dynamics** 2nd Edition, CRC/Taylor & Francis, Boca Raton, FL, ISBN 13: 978-1-138-58407-5 (with V. M. Starov).
6. 2012. **Falling Liquid Films**, Springer-Verlag, London, 440 pp. ISBN 978-1-84882-366-2 (with S. Kalliadasis, C. Ruyer-Quil & B. Scheid).

OTHER BOOKS/OTROS LIBROS

1. 1982. **La Fisica en España**, CAICYT-MEC, Madrid, 151 pp. (with J. L. de Segovia, E. Bernabeu, A. Fernandez-Rañada, F. Flores & F. Verdaguer).
2. 1977. **Cuestiones de Termodinamica y de Fisica Estadistica**, Monografias Real Academia de Ciencias, Madrid, 73 pp. (with C. Fernandez-Pineda).
3. 1989. **Fisica para todos (Guia de Lectura, Notas y Cuestionarios)** -serie de L. D. Landau & A. I. Kitaigorodsky- Rubiños, Madrid (vol. 1-300 pp. & vol. 2-289 pp.) (with R. Fernandez & J. L Hernandez).
4. 1991. **Fisica y Quimica - Energia 2**, **BUP 2**, SM, Madrid (vol. 1-351 pp. & vol. 2-174 pp.) (with A. Arriola, J. del Barrio, A. Cañas, R. Fernandez, J. Hernandez, E. Lowy & N. Romo).
5. 1991. **Fisica y Quimica - Energia 3**, **BUP 3**, SM, Madrid (vol. 1-351 pp. & vol. 2-213 pp.) (with J. del Barrio, R. Calderon, D. Crespo, R. Fernandez, J. Hernandez, M. Laiseca, E. Lowy, N. Romo & L. M. Tel).
6. 1992. **Fisica: Algunas preguntas, notas y respuestas**, UNED (Coleccion Aula Abierta), Madrid, 493 pp. (with R. Fernandez & J. L. Hernandez).

B. EDITOR/DIRECTOR/COMPILADOR (and contributor with one or more chapters/y autor de uno o varios capitulos)

1. 1971. **Lectures in Statistical Physics**, Springer-Verlag, Berlin, 181 pp. (with W. C. Schieve & A. P. Grecos).
2. 1974. Translation into Spanish and Appendix/Traduccion de **I. Prigogine: Introduccion a la Termodinamica de Procesos Irreversibles**, Selecciones Cientificas, Madrid, 169 pp. (with A. Soilan).
3. 1977. **Fronteras de la Ciencia (2 vols), vol. I: Bioquimica, Ecologia, Informatica,** 300 pp, **vol. II: Astrofisica, Materiales, Energetica,** 256 pp., Biblioteca Educacion Permanente, Serie Aula Abierta, U.N.E.D., Madrid
4. 1984. **Nonequilibrium Cooperative Phenomena in Physics and Related Fields**, Plenum Press, N.Y., 569 pp.
5. 1988. **Synergetics, Order and Chaos**, World Scientific, Singapore, 736 pp.
6. 1988. **Physicochemical Hydrodynamics. Interfacial Phenomena**, Plenum Press, N.Y., 1111 pp.
7. 1992. **Aceite de Oliva. Actas de las Jornadas (Tercer Año Mundial del Olivo) en el Ateneo de Madrid**, Mira, Zaragoza, 153 pp. (with J. Bautista de la Torre & A. Bonilla).
8. 1995. **Fluid Physics** (Proceedings of Summer Schools), World Scientific, Singapore, 597 pp., ISBN 981-02-1899-0 (with C. I. Christov).
9. 1995. **Thermodynamics and Statistical Physics. Teaching Modern Physics**, Proceedings 4th ICPE/IUPAP International Conference, World Scientific, Singapore, 315 pp., ISBN 981-02-2417-6 (with F. Cuadros).
10. 2002. **Interfacial Phenomena and the Marangoni Effect**, CISM-Springer Verlag, Udine & Wien, 283 pp., ISBN 3-211-83696-9 (with R. Kh. Zeytounian).

11. 2007. **Surface Forces: wetting phenomena, membrane separation and rheology**, *Advances in Colloid and Interface Science vol. 134-135 C (Topical issue in honor of the 60th birthday of Prof. V. M. Starov),* Elsevier, 350 pp.
12. 2011. **Wetting and Spreading Science - *quo vadis*?** *European Physical Journal – Special Topics- Discussion and Debate* vol. 197, Springer-Verlag, 345 pp.
13. 2017. **Dynamics of wetting by surfactant solutions,** *Colloids and Interfaces A. Physicochemical and Engineering Aspects* vol. 521, *(Special issue in honor of the 70th birthday of Prof. V. M. Starov)* (with N. M. Kovalchuk & R. Miller) Elsevier, 311 pp.
14. 2018. **The Ocean in Mortion** (with R. Yu. Tarakanov & A. V. Marchenko) Springer International, Cham, 625 pp.
15. 2026. **Science withour borders, the legacy of Etienne Guyon**, *European Physical Journal – Special Topics*, Springer-Verlag (with Y. Pomeau & J. E. Wesfreid).

PUBLICATIONS/PUBLICACIONES

FIRST LISTING: SCIENTIFIC PUBLICATIONS IN PERIODICALS/PUBLICACIONES EN REVISTAS CIENTIFICAS

(NB: Only the name **VELARDE** has been used with initials M. G. or simply M.)

For further information, (1993 onwards) see: **https://www.ucm.es/ip-1/fluidos**

1968

1. 1968 "On the domain of validity of Gibbs' entropy law", *Phys. Lett.* **A 26**, 584-585 (with J. Wallenborn).

1969

2. 1969 "On a descomposition out of equilibrium of the Gibbs' entropy of a classical non-uniform gas", *An. Fisica (Spain)* **LXV**, 117-126.
3. 1969 "Una extension natural, para estados fuera de equilibrio, de la nocion usual de entropia de informacion", *An. Fisica (Spain)* **LXV**, 131-134.
4. 1969 "Sobre la imposibilidad de un desarrollo analitico en la densidad, para los coeficientes de transporte de un gas clasico o cuantico", *An. Fisica (Spain)* **LXV**, 359-364.
5. 1969 "On the validity of Gibbs' entropy law in strongly coupled systems", *Physica* **43**, 263-276 (with G. Nicolis & J. Wallenborn).

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7. 1970 "Sur le calcul des coefficients de transport dans un gaz simple, classique ou quantique. I. Quelques notes historiques et la question formelle du developpement en serie de la densite", *Revista Real Academia Ciencias (Madrid)* **LXIV**, 917-964.

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8. 1971 "Sur le calcul des coefficients de transport dans un gaz simple, classique ou quantique. II. Le probleme des divergences dans le calcul des deux premieres corrections du modele de Boltzmann dans un gaz de Lorentz", *Revista Real Academia Ciencias (Madrid)* **LXV**, 165-205.
9. 1971 "Non-analytic density expansion of transport coefficients in the quantum Lorentz gas and weak-coupling approximation", *Physica* **51**, 541-560 (with P. Resibois).
10. 1971 "Thermal diffusion and convective stability: A critical curvey of Soret coefficient measurements", *Chem. Phys. Lett.* **12**, 312-315 (with R. S. Schechter).

1972

11. 1972 "Thermal diffusion and convective stability: An analysis of the convected fluxes", *Phys. Fluids* **15**, 1707-1714 (with R. S. Schechter).

1973

12. 1973 "Comments on cluster expansion and autocorrelation functions: Self-diffusion coefficient", *J. Chem. Phys.* **59**, 2166-2167 (with P. Resibois).
13. 1973 "Sobre el movimiento convectivo del manto terrestre y la deriva continental. I. Bases fisicas de partida", *Revista Geofisica (Spain)* **XXXII**, 289-312 (with J. Salan).

1974

14. 1974 "Estabilidad hidrodinamica y campo hidrostatico adiabatico", *Revista Geofisica (Spain)* **XXXIII**, 79-101 (with R. Perez-Cordon).
15. 1974 "Fluctuating Hydrodynamics and Brownian motion. II. Note on the slip boundary condition", *J. Stat. Phys.* **10**, 103-105 (with E. H. Hauge).
16. 1974 "The two-component Benard problem", *Adv. Chem. Phys.* **26**, 265-301 (with R. S. Schechter & J. K. Platten) [Invited].

1975

17. 1975 "Formacion de estructuras disipativas en sistemas termodinamicos muy alejados del equilibrio: un ejemplo del sorprendente efecto de los fenomenos de transporte cruzado", *Revista Real Academia Ciencias (Madrid)* **LXIX**, 169-190.
18. 1975 "On the (nonlinear) foundations of Boussinesq approximation applicable to a thin layer of fluid", *J. Phys. (Paris)* **36**, 591-601 (with R. Perez-Cordon).
19. 1975 "On the nature of the neutral stability curve belonging to various thermohydrodynamic problems", *An. Fisica (Spain)* **71**, 325-328 (with J. L. Ibanez).

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20. 1976 "On the (nonlinear) foundations of Boussinesq approximation applicable to a thin layer of fluid. II. Viscous dissipation and large cell gap effects", *J. Phys. (Paris)* **37**, 176-182 (with R. Perez-Cordon).
21. 1976 "The cumulant expansion in renormalization-group transformations: The convergence question and the dependence upon cell size", *J. Phys. (London)* **A 9**, 1713-1717 (with P. C. Hemmer).
22. 1976 "Limit Cycle and dissipative structures in a simple bimolecular non-equilibrium reactional scheme with enzyme", *Phys. Lett.* **A 58**, 364-366 (with J. L. Ibanez & V. Fairen).
23. 1976 "Stability diagram and nonlinear structures in a simple reaction scheme involving inhibition forward", *Phys. Lett.* **A 59**, 335-337 (with J. L. Ibanez & V. Fairen).

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24. 1977 "Convective instability: A Physicist's Approach", *Revs. Modern Phys.* **49**, 581-624 (with Ch. Normand & Y. Pomeau) [Invited].
25. 1977 "Steady states and stability analysis of a bimolecular non-equilibrium reaction scheme with general Hinshelwood-Langmuir saturation-inhibition law", *J. Phys. Lett. (Paris)* **38**, 405-407 (with J. L. Ibanez).
26. 1977 "Hydrochemical stability of an interface between two immiscible liquids: The role of Langmuir-Hinshelwood saturation law", *J. Phys. Lett. (Paris)* **38**, 1479-1483 (with J. L. Ibanez).
27. 1977 "Sur la convection cellulaire dans les sels fondus pres de leur point de solidification", *Comptes Rendus, Acad. Sci. (Paris)* **B 285**, 275-278 (with J. Pantaloni, R. Bailleux & E. Guyon).
28. 1977 "The role of convection in the transient hot wire method", *Rev. Phys. Appl. (Paris)* **12**, 1849-1854 (with J. Pantaloni, E. Guyon, R. Bailleux & G. Finiels).

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29. 1978 "Multiple steady states in a simple reaction-diffusion model with Michaelis-Menten (first order Hinshelwood-Langmuir) saturation law: The limit of large separation in the two diffusion constants", *J. Math. Phys.* **19**, 151-156 (with J. L. Ibanez).
30. 1978 "Soret-driven convective instability with rotation", *Phys. Lett.* **A 65**, 377-379 (with J. C. Antoranz).
31. 1978 "Thermal diffusion and the Marangoni-Benard instability of a two-component fluid layer heated from below", *Phys. Lett.* **A 66**, 489-491 (with J. L. Castillo).
32. 1978 "The cumulant expansion in renormalization group transformations of Ising Models: Cells with nine spins and anisotropic cell interactions", *J. Phys. (Paris)* **39**, 732-736 (with E. Moline).
33. 1978 "Instabilite de Benard-Marangoni dans les nematiques", *J. Phys. Lett. (Paris)* **39**, 205-208 (with E. Guyon).

34. 1978 "Nonlinear reaction-diffusion on a sphere: a simple autocatalytic model with Michaelis-Menten (first order Hinshelwood-Langmuir) saturation law", *J. Non-Equilib. Thermodyn.* **3**, 63-82 (with J. L. Ibanez).
35. 1978 "Stability analysis of dissipative structures in a nonlinear diffusion-reaction problem", *Phys. Rev.* **A1 8**, 750-755 (with J. L. Ibanez).
36. 1978 "A case of multiple steady states in reaction-diffusion systems", *J. Phys. (Paris)* **39**, **C 5**, 17-18.
37. 1978 "Multiple steady states for the Degn-Harrison reaction scheme of a Bacterial Culture", *Zeit. Phys.* **B 31**, 111-116 (with P. C. Hemmer).
38. 1978 "Further evidence of a phase transition induced by external noise", *Phys. Lett.* **A 69**, 304-306 (with F. J. de la Rubia).

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39. 1979 "Dissipative structures in a nonlinear reaction-diffusion model with inhibition forward: global nonuniform steady patterns, spatiotemporal structures and wave-like phenomena", *Progress Theoret. Phys.* **61**, 801-814 (with V. Fairen).
40. 1979 "Stochastic description of a reaction scheme with autocatalysis and satu-ration law", *Chem. Phys. Lett.* **62**, 405-407 (with F. J. de la Rubia & V. Fairen).
41. 1979 "Phase transition picture of the Soret-driven convective instability in a two-component liquid layer heated from below", *Phys. Lett.* **A 72**, 123-127 (with J. C. Antoranz).
42. 1979 "Thermal diffusion and convective stability: The role of uniform rotation of the container", *Phys. Fluids* **22**, 1038-1043 (with J. C. Antoranz).
43. 1979 "Rayleigh-Benard-Marangoni convective instability: New experimental results", *J. Non-equilib. Thermodyn.* **4**, 201-218 (with J. Pantaloni, R. Bailleux & J. Salan).
44. 1979 "Thermoconvective instabilities of nematic liquid layers: New theoretical predictions", *J. Phys. (Paris)* **40**, 725-731 (with I. Zuniga).
45. 1979 "Time periodic oscillations in a model for the respiratory process of a bacterial culture", *J. Math. Biology* **8**, 147-157 (with V. Fairen).
46. 1979 "Dissipative structures in a nonlinear reaction-diffusion model with forward inhibition. Stability of secondary multiple steady states", *Rep. Math. Phys.* **16**, 421-432 (with V. Fairen).
47. 1979 "The role of Soret and Dufour effects on the stability of a binary gas layer heated from below or above", *Geophys. Astrophys. Fluid Dyn.* **13**, 83-94 (with P. L. Garcia Ybarra).
48. 1979 "Singular perturbations approach to the limit cycle and global patterns in a nonlinear diffusion-reaction problem with autocatalysis and saturation law", *J. Math. Phys.* **20**, 2692-2703 (with L. L. Bonilla).

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49. 1980 "Mass-diffusion and boundary effects in Soret-driven convective instability", *Phys. Fluids* **23**, 402-403 (with A. Cordoba).
50. 1980 "Microgravity and the thermoconvective stability of a binary liquid layer open to the ambient air", *J. Non-Equilib. Thermodyn.* **5**, 111-124 (with J. L. Castillo).
51. 1980 "Localized nonuniform patterns in a reaction-diffusion model with auto-catalysis and the Langmuir-Hinshelwood saturation law", *J. Math. Phys.* **21**, 2586-2589 (with L. L. Bonilla).
52. 1980 "Laser with saturable absorber and two-component Benard convection: Limit cycle behaviour", *Phys. Lett.* **A 80**, 220-222 (with J. C. Antoranz).

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53. 1981 "Phenomenological phase transition approach to the two-component Rayleigh-Benard problem: Tricritical behavior", *J. Stat. Phys.* **24**, 235-241 (with J. C. Antoranz).
54. 1981 "Natural *versus* forced convection in two-component Benard problem: New theoretical results", *J. Non-Equilib. Thermodyn.* **6**, 159-164 (with J. A. Artiz-Cohen).
55. 1981 "Phase diagrams of a laser with absorber", *Optics Commun.* **38**, 61-63 (with J. C. Antoranz).
56. 1981 "Strange attractor (optical turbulence) in a model problem for the laser with saturable absorber and the two-component Benard convection", *Progress Theoret. Phys.* **66**, 717-720 (with J. C. Antoranz).

57. 1981 "Electrohydrodynamic stability in the presence of a thermal gradient", *Phys. Fluids* **24**, 1784-1786 (with A. Castellanos).
58. 1981 "Limit cycle in a bound exciton recombination model in non-equilibrium semiconductors", *J. Phys. Chem. Solids* **42**, 873-881 (with A. Pimpale, P. T. Landsberg & L. L. Bonilla).
59. 1981. "Oscillatory phenomena and Q-switching in a model for a laser with a saturable absorber", *Phys. Rev. Lett.* **47**, 1895-1898 (with J. C. Antoranz & J. Gea).
60. 1981 "Time-delay, diffusion and advection in a model for the time evolution of a spruce budworm population", *J. Interdisciplin. Cycle Res.* **12**, 267-272 (with L. L. Bonilla).

1982

61. 1982 "Buoyancy-thermocapillary instability: The role of interfacial deformation in one- and two-component fluid layers heated from below or above", *J. Fluid Mech.* **125**, 463-474 (with J. L. Castillo).
62. 1982 "Two-component Benard convection in cylinders", *Int. J. Heat Mass Transfer* **25**, 1451-1456 (with E. Crespo).
63. 1982 "A model describing Soret diffusion and convective instability in a closed vertical column", *J. Non-Equilib. Thermodyn.* **7**, 253-258 (with P. L. Garcia Ybarra).
64. 1982 "Bistable limit cycles in a model for a laser with a saturable absorber", *Phys. Rev. Lett.* **49**, 35-38 (with J. C. Antoranz, L. L. Bonilla & J. Gea).
65. 1982 "The spruce budworm-forest ecosystem: a forty-year limit cycle", *J. Interdisciplin. Cycle Res.* **13**, 313-316 (with L. L. Bonilla & A. Fernandez-Cancio).

1983

66. 1983 "Two-component Benard convection: Interfacial deformation, oscillatory instabilities and the onset of turbulence", *Adv. Space Res.* **3**, 23-30 [Invited].

1984

67. 1984 "Oscillatory and steady convection in dielectric liquid layers subjected to unipolar injection and temperature gradient", *Phys. Fluids* **27**, 1607-1615 (with A. Castellanos & P. Atten).
68. 1984 "Electrothermal convection: Felici's hydraulic model and the Landau picture of non-equilibrium phase transitions", *J. Non-Equilib.Thermodyn.* **9**, 235-244 (with A. Castellanos & P. Atten).
69. 1984 "Role of multiplicative non-white noise in a surface catalyzed reaction with oscillations", *Surface Sci.* **143**, 1-10 (with F. J. de la Rubia & J. Garcia Sanz).

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70. 1985 "*Corrigenda et Addenda* to two-component Benard convection in cylinders", *Int. J. Heat Mass Transfer* **28**, 311-313 (with E. Crespo & P. L. Garcia-Ybarra).
71. 1985 "A solar pond for Central Spain", *Solar Energy* **34**, 179-180 (with J. A. Artiz-Cohen & M. Yuste).
72. 1985 "White versus Non-white stochastic environment of intrinsically stochastic systems: A Computational Approach to the Evolutionary Problem", *J. Non-Equilib. Thermodyn.* **10**, 219-232 (with F. J. de la Rubia).
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74. 1985 "Marangoni Convection in liquid films with a deformable open surface", *J. Colloid Interface Sci.* **108**, 264-270 (with J. L. Castillo).

1987

75. 1987 "Interfacial Oscillations in Benard-Marangoni Layers", *Physicochem. Hydrodyn.* **9**, 387-392 (with P. L. Garcia-Ybarra & J. L. Castillo).
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SECOND LISTING *(numbering in italics*): BOOK CHAPTERS, LECTURE NOTES, CONFERENCE PROCEEDINGS, etc/CAPITULOS DE LIBROS, NOTAS DE CURSOS O ESCUELAS INTERNACIONALES, CONTRIBUCIONES A ACTAS DE REUNIONES CIENTIFICAS O CONGRESOS CIENTIFICOS, etc.

(NB: Only the name **VELARDE** has been used with initials M. G. or simply M.)

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(NB.: Generally published under the full name Manuel Garcia Velarde)

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LAB KITS/EQUIPOS DE LABORATORIO (JUNIOR UNIVERSITY YEARS AND SENIOR HIGH SCHOOL YEARS)

1. 1987. **OPTICS WITH A LASER/Equipo de practicas de optica con laser (con guia de usuario)**, Didaciencia-Leybold, Madrid (with R. Fernandez). Ganador del concurso convocado por el MEC.
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INTERVIEWS & NEWS REPORTING ACTIONS (NEWS-PAPERS, RADIO & TELEVISION)/ ENTREVISTAS Y NOTICIAS RELACIONADAS CON DIVERSAS ACCIONES (PERIODICOS, REVISTAS, RADIO Y TV)

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5. 1980. RADIO NACIONAL ESPAÑA RNE-1: Asesor científico y autor de varios programas sobre temas científicos (cristales líquidos, etc.) en "La Enciclopedia de la Ignorancia".
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OTHER ACTIVITIES/OTRAS ACTIVIDADES

1. Director/Presidente Comité Internacional de numerosos congresos y escuelas internacionales de los que, en ocasiones, se han publicado las Actas/Proceedings y, asimismo, ha sido miembro del comité internacional organizador en más de dos centenares.
2. Ha dado casi un millar de conferencias divulgación científica (ilustradas en muchas ocasiones con experiencias de cátedra) a lo largo y ancho de la geografía española y parte del extranjero ("La barraca de la ciencia")/Nearly a thousand lectures delivered for the lay audience, school children, and high school youngsters, etc. all over Spain, and in the USA, Canada, Italy, Portugal and France.
3. 1977-presente. Ha organizado numerosos ciclos de conferencias de divulgación científica (más de una quincena). Particularmente a señalar FRONTERAS DE LA CIENCIA (desde 1977) y AULA ABIERTA-EXPERIENCIAS DE CATEDRA (desde 1993) en ACHNA, en el Centro Cultural de la Villa de Madrid y en el ATENEO de Madrid. En esta última institución, la Fundación de BBV dotó en 1993 y 1994 una cátedra para que desarrollara dicha actividad,

recuperando así la tradición existente a finales del siglo pasado y primeras décadas del presente, desarrollada por S. RAMON Y CAJAL, B. CABRERA, J. ECHEGARAY y otros.

4. 1983. **Lección inaugural** del curso académico **1983-84** de la UNED: "Transiciones, sinergesis y evolución: de la física a la sociología" (publicada por la UNED).
5. 1985 (Octubre). Padrino del Profesor Dr. **Ilya Prigogine**, Catedrático de las Universidades Libre de Bruselas y de Texas en Austin y Premio Nobel de Química de 1977, en su **Doctorado "Honoris Causa"** por la UNED (primero de esta universidad).
6. 1987 (Octubre). Padrino del Profesor Dr. **Hermann Haken**, Catedrático y Director del Instituto de Física Teórica y Sinergética de la Universidad de Stuttgart, RFA, en su **Doctorado "Honoris Causa"** por la UNED.
7. 1993. **XX ANIVERSARIO UNED/XXth ANNIVERSARY UNED**, Organizador y presentador del Ciclo de Conferencias/LECTURE SERIES **FRONTERAS DE LA CIENCIA**: 1. **P. Day**, Director Royal Institution, Londres; 2. **N. F. Ramsey**, Catedrático Universidad Harvard y Premio Nobel de Física de 1989; 3. **H. Haken**, Catedrático y Director Instituto de Física Teórica y Sinergética de la Universidad de Stuttgart, RFA; 4. **T. Marco**, Compositor; y 5. **P. G. de Gennes**, Catedrático Collège de France, Director Escuela de Física y Química de la Ciudad de Paris y Premio Nobel de Física de 1991, Mayo.
8. 2008. **Lección inaugural** del curso **2008-2009** de la Real Academia de Doctores de España “Perfección y simetría dan belleza, pero no hay inteligencia sin errores, y sin simetrías rotas no hubiese habido evolución” (publicada en los Anales de la RADE).
9. 2002-2019. “Toccare l’aria e sentire la terra tremare”: Ciencia experimental/Introducción a la investigación con escolares 10-12 años en la Ciudad de Udine (Región Autónoma Friuli-Venezia Giulia, Italia) con reuniones anuales de presentación de sus estudios/resultados durante el año académico con asistencia de casi trescientos estudiantes y profesores. Patrocinado por diversas asociaciones: Clubs Rotary (tres), Clubs Lions (5), Inner Wheel Rotary, Fidapa, Soroptimist, Round table, Club Unesco, Panathlon con el apoyo de la Región (Consiglio Regionale FVG) y asesoramiento de la Protección Civil de la Región y de la Organización meteorológica (ARPA-OSMER) de la Región.