

Curriculum vitae

Number of pages: 19

Name: María López Fernández

Date: October 21st, 2025

PERSONAL INFORMATION

Name: LÓPEZ FERNÁNDEZ, MARÍA
DNI/Passport: 74836888-V
Date of birth: 20/07/1977
Gender: Female
Nationality: SPANISH



CURRENT PROFESSIONAL SITUATION

Category: Associate Professor since February the 1st, 2021.
Institution: Faculty of Science, University of Malaga
Institute/Department: Department of Mathematical Analysis, Statistics and O.R, and Applied Mathematics.
Postal Address: Campus de Teatinos s/n. 29071 Málaga. SPAIN
Telephone number: +34 952 13 7060
E-mail: maria.lopezf@uma.es

Keywords in research: numerical methods for time-dependent partial differential equations, contour integral methods, numerical complex analysis, numerical methods for integro-differential equations, convolution quadrature, retarded potentials, time-domain boundary integral equations, numerical methods for fractional differential equations, variable step size methods, adaptivity.

EDUCATION

Title	Institution	Date
Degree in Mathematics Final mark: 3.417 / 4	Universidad de Valladolid	July 2000

Title	Institution	Advisors	Date
PhD in Mathematics Sobresaliente "Cum Laude"	Universidad de Valladolid	César Palencia de Lara Christian Lubich	19/12/2005

LANGUAGES (B=BEGINNER, I = INTERMEDIATE, G = GOOD, F = FLUENT)

Language	Speak	Read	Write
Spanish	Mother tongue	Mother tongue	Mother tongue
English	F	F	F
Italian	F	F	F
German	I (B1)	I (B1)	I (B1)

PAST POSITIONS/FELLOWSHIPS

<i>POSITION</i>	<i>Center</i>	<i>Institution</i>	<i>From</i>	<i>To</i>
Collaboration fellowship with the Department of Mathematical Analysis and Didactic of Mathematics.	Facultad de Ciencias	Universidad de Valladolid	1-10-1999	1-7-2000
Consultant	Pricewaterhouse Coopers		16-10-2000	31-7-2001
“Profesora Asociada” partial time (6+6 horas/sem)	Facultad de Ciencias	Universidad de Valladolid	16-2-2002	30-4-2002
PhD Fellowship	Facultad de Ciencias	Universidad de Valladolid	01-5-2002	30-9-2003
Assistant	Facultad de Ciencias	Universidad de Valladolid	01-10-2003	30-9-2007
Post-doctoral researcher (fellowship of the research Project SIMUMAT)	Facultad de Ciencias	Universidad Autónoma de Madrid	01-03-2007	31-12-2007
Post-doctoral researcher “Juan de la Cierva” (fellowship of the Ministry of Science and Innovation)	Facultad de Ciencias	Universidad Autónoma de Madrid	01-01-2008	25-01-2009
Assistant Professor	Escuela Politécnica Superior	Universidad Carlos III de Madrid	26-01-2009	09-06-2009
Post doctoral researcher “JAEDoc” (fellowship of the Consejo Superior de Investigaciones Científicas)	Instituto de Ciencias Matemáticas (ICMAT)	Consejo Superior de Investigaciones Científicas	10-06-2009	31-08-2010
Lecturer	Institut für Mathematik	Universität Zürich	01-09-2010	31-10-2014
Visiting Professor	Gran Sasso Science Institute GSSI, L’Aquila	Istituto Nazionale di Fisica Nucleare (Italia)	01-11-2014	31-08-2015
Assistant Professor “Ramón y Cajal” (fellowship awarded by the Spanish Ministry of Science and Innovation)	Facultad de Ciencias	Universidad de Málaga	01-09-2015	31-01-2021
Researcher (RTD-B)	Dipartimento di Matematica Guido Castelnuovo	Sapienza Università di Roma	1-12-2015	15-11-2018
Associate Professor	Dipartimento di Matematica Guido Castelnuovo	Sapienza Università di Roma	16-11-2018	31-8-2020

PARTICIPATION IN RESEARCH GRANTS

TITLE: Leyes de equilibrio no lineales para simulación en mecánica de fluidos: modelización, métodos numéricos, análisis, implementación eficiente y aplicaciones.

(Nonlinear balance laws for simulation in fluid mechanics: modelling, numerical methods, analysis, efficient implementation and applications)

FINANCED BY: Ministerio de Ciencia e Innovación

FROM: September 2023 TO: Agosto 2026 AMOUNT: 90.625 €

MAIN RESEARCHERS: Manuel Castro Díaz (University of Málaga), Enrique Fernández Nieto (U. Sevilla)

TITLE: Numerical methods for nonlocal problems.

FINANCED BY: University of Málaga

FROM: January 2023 TO: December 2025 AMOUNT: 50.000 €

MAIN RESEARCHERS: Maria Lopez-Fernandez (University of Málaga)

TITLE: 2022 Leonardo Grant for Researchers and Cultural Creators.

FINANCED BY: BBVA Foundation

FROM: November 2022 TO: April 2024 AMOUNT: 40.000 €

MAIN RESEARCHER: Maria Lopez-Fernandez (University of Málaga)

TITLE: Innovative numerical methods for evolutionary partial differential equations and applications.

FINANCED BY: MIUR. Progetto di Ricerca di Interesse Nazionale (PRIN)

FROM: 2019 TO: 2021 AMOUNT: 533.540 €

MAIN RESEARCHERS: Giovanni Russo (Università di Catania)

TITLE: Problemi di evoluzione e loro discretizzazione: questioni di stabilità lineare e non lineare.

(Evolutionary problems and their discretization: linear and nonlinear stability issues)

FINANCED BY: GNCS

FROM: 26/02/2019 TO: 25/02/2020 AMOUNT: 4000 €

MAIN RESEARCHERS: Raffaele D'Ambrosio (Università di L'Aquila)

TITLE Approssimazione numerica di problemi di evoluzione: aspetti deterministici e stocastici

(Numerical approximation of evolutionary problems: deterministic and stochastic aspects)

FINANCED BY: GNCS

FROM: 05/02/2018 TO: 04/02/2019 AMOUNT: 5000 €

MAIN RESEARCHERS: Raffaele D'Ambrosio (Università di L'Aquila)

Personal 18 month-long research funding awarded by Ministero dell'istruzione, dell'Università e della Ricerca (FFABR-MIUR), Italy, 2017 (3000 €).

TITLE: Analisi e sviluppo di metodologie numeriche per certi tipi non classici di sistemi dinamici.

(Analysis and development of numerical methods for certain non classical dynamical systems)

FINANCED BY: GNCS

FROM: 01/02/2017 TO: 31/01/2018 AMOUNT: 6.800 €

MAIN RESEARCHERS: Stefano Maset (Università di Trieste)

TITLE: Metodi numerici per equazioni di evoluzione infinito dimensionale e non smooth.

(Numerical methods for infinite dimensional, non smooth evolutionary equations)

FINANCED BY: GNCS

FROM: 01/02/2016 TO: 31/01/2017 AMOUNT: 5.000 €

MAIN RESEARCHERS: Stefano Maset (Università di Trieste)

TITLE: Ecuaciones en derivadas parciales: dinámica asintótica y perturbaciones
(*Partial differential equations: asymptotic dynamics and perturbations*)
FINANCED BY: MINECO
PARTICIPANT INSTITUTIONS: Universidad Complutense de Madrid
FROM: 01/01/2017 TO: 31/12/2020 AMOUNT: 43.200 €
MAIN RESEARCHERS: Jose María Arrieta Algarra y Aníbal Rodríguez Bernal

TITLE: Análisis numérico de problemas de evolución no lineales y no locales
(*Numerical analysis of nonlinear and nonlocal evolution problems*)
FINANCED BY: MINECO
PARTICIPANT INSTITUTIONS: Universidad de Valladolid
FROM: 01/01/2015 TO: 31/12/2017 AMOUNT: 19.723 €
MAIN RESEARCHERS: Ángel Durán y César Palencia

TITLE: Adaptive Convolution Quadrature for the Wave Equation
FINANCED BY: Swiss National Science Foundation
PARTICIPANT INSTITUTIONS: Universidad de Zurich
FROM: 01/02/2013 TO: 31/01/2015 AMOUNT: 103.812 CHF (Swiss francs)
MAIN RESEARCHER: María López-Fernández

TITLE: Ecuaciones en derivadas parciales: dinámica no lineal, perturbaciones y aplicaciones
(*Partial differential equations: nonlinear dynamics, perturbations and applications*)
FINANCED BY: Ministerio de Industria, Economía y Competitividad (MINECO)
PARTICIPANT INSTITUTIONS: Universidad Complutense de Madrid
FROM: 01/01/2013 TO: 31/12/2015 AMOUNT: 86.580 €
MAIN RESEARCHER: Jose M. Arrieta

TITLE: Métodos numéricos para ecuaciones de evolución con términos no locales.
(*Numerical Methods for Evolution Equations with Non Local Terms*)
FINANCED BY: MICINN
PARTICIPANT INSTITUTIONS: Universidad de Valladolid
FROM: 01/01/2011 TO: 31/12/2013 AMOUNT: 41.100 €
MAIN RESEARCHER: César Palencia de Lara

TITLE: Ecuaciones en derivadas parciales: Análisis, Control, Numérico y Aplicaciones.
(*Partial Differential Equations: Analysis, Control, Numerics and Applications*)
FINANCED BY: Ministerio de Ciencia e Innovación (MICINN)
PARTICIPANT INSTITUTIONS: Universidad Autónoma de Madrid
FROM: 15/12/2008 TO: 14/12/2011 AMOUNT: 182.300 €
MAIN RESEARCHER: Enrique Zuazua Iriondo

TITLE: Discretizaciones en tiempo de problemas de evolución.
(*Time Discretization of Evolution Problems*)
FINANCED BY: MICINN
PARTICIPANT INSTITUTIONS: Universidad de Valladolid
FROM: 01/10/2007 TO: 30/09/2010 AMOUNT: 93.654 €
MAIN RESEARCHER: César Palencia de Lara

TITLE: Análisis, aproximación numérica y diseño óptimo de ecuaciones en derivadas parciales.
(*Analysis, Numerical Approximation and Optimal Design of Partial Differential Equations*)
FINANCED BY: Ministerio de Educación y Ciencia (MEC)
PARTICIPANT INSTITUTIONS: Universidad Autónoma de Madrid

FROM: 15/10/2005 TO: 14/10/2008 AMOUNT: 125.000 €
MAIN RESEARCHER: Enrique Zuazua Iriondo

TITLE: Discretizaciones en tiempo y espacio de problemas de evolución parabólicos, con énfasis en integradores exponenciales exactos y cálculo holomorfo.

(Time and Space Discretization of Parabolic Evolution Problems, with Emphasis on Exact Exponential Integrators and Holomorphic Calculus)

FINANCED BY: MEC

PARTICIPANT INSTITUTIONS: Universidad de Valladolid

FROM: 13/12/2004 TO: 12/12/2007 AMOUNT: 40.940 €

MAIN RESEARCHER: César Palencia de Lara

TITLE: Integración numérica de problemas de evolución.

(Numerical Integration of Evolution Problems)

FINANCED BY: Ministerio de Ciencia y Tecnología (MCYT)

PARTICIPANT INSTITUTIONS: Universidad de Valladolid

FROM: 28/12/2001 TO: 27/12/2004 AMOUNT: 60.822,42 €

MAIN RESEARCHER: César Palencia de Lara

TITLE: Modelización Matemática y Simulación Numérica en Ciencia y Tecnología (SIMUMAT)

(Mathematical Modelling and Numerical Simulation in Science and Technology)

FINANCED BY: Regional Government of Madrid

PARTICIPANT INSTITUTIONS: UAM, UC3M, CSIC, INTA

FROM: 1/11/2005 TO: 31/10/2008 AMOUNT: 802.000 €

MAIN RESEARCHER: Enrique Zuazua

TITLE: Integración numérica eficiente de ecuaciones en derivadas parciales mediante el método de líneas

(Efficient Numerical Integration of Partial Differential Equations by the Method of Lines)

FINANCED BY: Regional Government of Castilla y León.

PARTICIPANT INSTITUTIONS: Universidad de Valladolid

FROM: 01/03/2004 TO: 19/11/2006 AMOUNT: 3.400 €

MAIN RESEARCHER: Isaías Alonso Mallo

24. M. Lopez-Fernandez, L. Ploziniczak, "Convolution quadrature for the quasilinear subdiffusion equation", *SIAM Journal on Numerical Analysis* 63 (2025), 1482-1511.
23. J. Guo, M. Lopez-Fernandez, "Generalized convolution quadrature for non smooth sectorial problems", *Calcolo* 62 (2025), 1-37 (published online Dec 2024).
- 22.- N. Guglielmi, M. López-Fernández & M. Manucci, "Pseudospectral roaming contour integral methods for convection-diffusion equations", *Journal of Scientific Computing* 89 (2021), 1-31.
- 21.- S. Börm, M. López-Fernández & S. Sauter, "Variable Order, Directional H2-Matrices for Helmholtz Problems with Complex Frequency", *IMA Journal of Numerical Analysis* 41 (2021), 2896-2935.
- 20.- L. Banjai, M. López-Fernández, "Numerical approximation of the Schrödinger equation with concentrated potential", *Journal of Computational Physics* 405 (2020), 109155.
- 19.- N. Guglielmi, M. López-Fernández & G. Nino, "Numerical inverse Laplace transform for convection-diffusion equations", *Mathematics of Computation* 89 (2020), 1161-1191.
- 18.- L. Banjai, M. López-Fernández, "Efficient high order algorithms for fractional integrals and fractional differential equations", *Numerische Mathematik* 141 (2019), 289-317.
- 17.- L. Banjai, M. López-Fernández & A. Schädle, "Fast and oblivious algorithms for dissipative and two-dimensional wave equations", *SIAM Journal on Numerical Analysis* 55 (2017), 621-639.
- 16.- M. López-Fernández & S. Sauter, "Generalized Convolution Quadrature based on Runge-Kutta methods", *Numerische Mathematik* 133 (2016), 743-779.
- 15.- M. López-Fernández & S. Sauter, "Generalized Convolution Quadrature with Variable Time Stepping. Part II: Algorithm and Numerical Results", *Applied Numerical Mathematics* 94 (2015), 88-105.
- 14.- M. López-Fernández & S. Sauter, "Fast and stable contour integration for high order divided differences via elliptic functions", *Mathematics of Computation* 84 (2015), 1291-1315.
- 13.- A. Paganini & M. López-Fernández, "Efficient convolution based impedance boundary conditions", *COMPEL: The International Journal for Computation and Mathematics in Electrical and Electronic Engineering*, Vol. 33 (2014), n° 4, 1175-1188.
- 12.- R. Hiptmair, M. López-Fernández & A. Paganini, "Fast Convolution Quadrature based impedance boundary conditions", *Journal of Computational and Applied Mathematics* 263 (2014), 500-517.
- 11.- M. López-Fernández & S. Sauter, "Generalized Convolution Quadrature with Variable Time Stepping", *IMA Journal of Numerical Analysis* 33 (2013), n° 4, 1156-1175.
- 10.- J. M. Arrieta, M. López-Fernández & E. Zuazua, "Approximating travelling waves by equilibria of non local equations", *Asymptotic Analysis* 78 (2012), n° 3, 145-186.
- 9.- A. Castro, D. Córdoba, C. Fefferman, F. Gancedo, M. López-Fernández, "Rayleigh-Taylor breakdown for the Muskat problem with applications to water waves", *Annals of Mathematics* 175 (2012), n° 2, 909-948.
- 8.- J. M. Arrieta, M. López-Fernández & E. Zuazua, "On a nonlocal moving frame approximation of traveling waves", *Comptes Rendus Mathématique. Académie des Sciences. Paris* 349 (2011), 753-758.
- 7.- A. Castro, D. Córdoba, C. Fefferman, F. Gancedo, M. López-Fernández, "Turning waves and breakdown for incompressible flows", *Proceedings of the National Academy of Sciences of the United States of America* 108 (2011), no. 12, 4754-4759.
- 6.- M. López-Fernández, "A quadrature based method for evaluating exponential-type functions for exponential methods", *BIT Numerical Mathematics* 50 (2010), no. 3, 631-655.

- 5.- M. López-Fernández, C. Lubich, & A. Schädle, "Adaptive, fast, and oblivious convolution in evolution equations with memory", SIAM Journal on Scientific Computing 30 (2008), no. 2, 1015-1037.
 - 4.- M. López-Fernández, C. Palencia & A. Schädle, "A spectral order method for inverting sectorial Laplace transforms", SIAM Journal on Numerical Analysis 44 (2006), no. 3, 1332-1350.
 - 3.- A. Schädle, M. López-Fernández & C. Lubich, "Fast and oblivious convolution quadrature", SIAM Journal on Scientific Computing 28 (2006), no. 2, 421-438.
 - 2.- M. López-Fernández, C. Lubich, C. Palencia & A. Schädle, "Fast Runge-Kutta approximation of inhomogeneous parabolic equations", Numerische Mathematik 102 (2005), no. 2, 277-291.
 - 1.- M. López-Fernández & C. Palencia, "On the numerical inversion of the Laplace transform of certain holomorphic mappings", Applied Numerical Mathematics 51 (2004), no. 2-3, 289-303.
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PREPRINTS

1. J. Guo, M. Lopez-Fernandez, "Runge-Kutta generalized convolution quadrature for sectorial problems", Preprint arXiv: 2506.21242, 2025.
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CONFERENCE PROCEEDINGS

- 6.- L. Banjai, M. Lopez-Fernandez, "Efficient algorithms for Schrödinger equations with concentrated potential", Oberwolfach report n° 5/2019, Workshop ID 1906, title "Nonlinear Evolution Equations: Analysis and Numerics", DOI: 10.4171/OWR/2019/5.
 - 5.- M. Lopez-Fernandez, "Time or space adaptivity for exterior wave problems with gCQ", Oberwolfach report n° 15/2017, Workshop ID 1711, title "Space-time Methods for Time-dependent Partial Differential Equations", DOI: 10.4171/OWR/2017/15.
 - 4.- M. López-Fernández, S. Sauter, "Runge-Kutta based generalized convolution quadrature", AIP Conference Proceedings, Volume 1738, 8 June 2016, Article number 020010. International Conference of Numerical Analysis and Applied Mathematics 2015, ICNAAM 2015; Rhodes (Greece). DOI: 10.1063/1.4951754
 - 3.- R. Hiptmair, M. López-Fernández & A. Paganini, "Fast convolution quadrature for impedance boundary conditions", Oberwolfach report n° 14/2014, Workshop ID 1412, title "Nonlinear Evolution Equations: Analysis and Numerics", DOI: 10.4171/OWR/2014/14.
 - 2.- M. López-Fernández, C. Lubich & A. Schädle, "Convolución adaptativa, rápida y con poca memoria para ecuaciones de evolución con memoria". Proceedings of the XX Congress on Differential Equations and Applications/X Congress on Applied Mathematics, (Spanish) (Sevilla, 2007).
 - 1.- M. López-Fernández, C. Palencia & A. Schädle, "Un método de orden espectral para invertir transformadas de Laplace sectoriales". Proceedings of the XIX Congress on Differential Equations and Applications/IX Congress on Applied Mathematics, (Spanish) (Leganés, 2005).
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THESES

- 1.- M. López-Fernández, "Inversión numérica de la transformada de Laplace y aplicaciones a problemas de evolución", Master Thesis, Universidad de Valladolid, June 2003. (*Numerical inversion of the Laplace transform and applications to evolution problems*)

2.- M. López-Fernández, "Discretizaciones de orden espectral de integrales de contorno sectoriales y aplicaciones a problemas de evolución", PhD thesis, Universidad de Valladolid, December 2005. (*"Spectral order discretizations of sectorial contour integrals and applications to evolution problems"*)

MAIN VISITS AT FOREIGN INSTITUTIONS

- V1) 26/01/2025-31/01/2025: GSSI L'Aquila, L'Aquila (Italy). Invited by Professor Nicola Guglielmi.
- V2) 21/10/2019-26/10/2019: Center for Computational Mathematics, Flatiron Institute, and Courant Institute of Mathematical Sciences, New York University, New York (USA). Invited by Professor Leslie Greengard.
- V3) 30/09/2018-02/10/2018: Division of Mathematics, University of Dundee (UK). Invited by Professors Agis Athanasoulis and Irene Kyza.
- V4) 14/05/2018-18/05/2018: School of Mathematics, Heriot-Watt University, Edinburgh (UK). Invited by Professor Lehel Banjai.
- V5) 04/04/2018-06/04/2018: Department of Mathematics, University Carlos III of Madrid (Spain). Invited by Professor Fernando Lledó.
- V6) 17/07/2017-21/07/2017: Institute of Informatics, University of Kiel (Germany). Invited by Professor Steffen Börm.
- V7) 25/04/2016-29/04/2016: Institute of Mathematics, University of Zurich. Zurich (Switzerland). Invited by Professor Stefan Sauter.
- V8) 25/05/2015-29/05/2015: Departamento de Matemática Aplicada, Universidad Complutense de Madrid (Spain). Invited by Professor Jose María Arrieta.
- V9) 23/06/2014-26/06/2014: Karlsruher Institut fuer Technologie (KIT). Institut fuer Angewandte und Numerische Mathematik (Germany). Invited by Professor Marlis Hochbruck.
- V10) 08/11/2012-09/11/2012: Institut für Mathematik, Universität Innsbruck. Innsbruck (Austria). Invited by Professor Alexander Ostermann.
- V11) 12/05/2011-13/05/2011: Mathematisches Institut, Heinrich-Heine-Universität. Düsseldorf (Germany). Invited by Professor Achim Schädle.
- V12) 08/05/2011-12/05/2011: Department of Mathematics. University of Bielefeld. Bielefeld (Germany). Invited by Professor Wolf-Jürgen Beyn.
- V13) 03/05/2010-07/05/2010: Max-Planck-Institute for Mathematics in the Sciences. Leipzig (Germany). Invited by Doctor Lehel Banjai.
- V14) 26/04/2010-30/04/2010: Mathematisches Institut, Heinrich-Heine-Universität. Düsseldorf (Germany). Invited by Professor Achim Schädle.
- V15) 27/11/2009 - 15/12/2009: School of Mathematics. Georgia Tech University (Atlanta, USA). Invited by Professor Jose María Arrieta (visiting).
- V16) 08/11/2009 - 13/11/2009: Mathematisches Institut. Universität Tübingen (Germany). Invited by Professor Christian Lubich.
- V17) 02/11/2009 - 07/11/2009: Institut für Mathematik. Universität Zurich (Switzerland). Invited by Professor Stefan Sauter.
- V18) 05/05/2008 - 04/06/2008: Academy of Mathematics and Systems Science. Chinese Academy of Sciences. Beijing (China). Invited by Professor Xu Zhang.
- V19) 25/02/2008 - 29/02/2008: Zuse Institut Berlin (ZIB), Berlin (Germany). Invited by Professor Achim Schädle.
- V20) 15/08/2005 - 19/08/2005: Zuse Institut Berlin (ZIB), Berlin (Germany). Invited by Professor Achim Schädle.
- V21) 15/04/2005 - 13/05/2005: Mathematisches Institut. Universität Tübingen (Germany). Invited by Professor Christian Lubich.
- V22) 20/09/2004 - 24/09/2004: Zuse Institut Berlin (ZIB), Berlin (Germany). Invited by Professor Achim Schädle.
- V23) 20/07/2003 - 24/08/2003: Memorial University of St. John's (Newfoundland, Canada). Participant at the Summer School organized by the Atlantic Association for Research in the Mathematical Sciences.
- V24) 23/07/2000 - 27/08/2000: University of Perugia (Italy). Participant at the Summer School organized by the Scuola Matematica Interuniversitaria.

PARTICIPATION IN CONFERENCES

C57) "Convolution Quadrature for the quasilinear subdiffusion equation", Invited talk 30', "12th Workshop on Numerical Methods for Evolution Equations", September 19-20, 2025, Heraklion, Crete, Greece.

C56) "Convolution Quadrature for the quasilinear subdiffusion equation", Invited talk 30' at the Minisymposium "Recent Advances in Analysis and Computation of Nonlocal and Fractional Models", of the Conference "HKSIA 2025", July 26-29, 2025, Hong Kong, China.

C55) "Generalized Convolution Quadrature for parabolic problems", Invited talk 30' at "7th Workshop on Stability and Discretization Issues in Differential Equations (SDIDE 2025)", June 15-20, 2025, Salerno, Italy.

C54) "Generalized convolution quadrature for non smooth sectorial problems", Contributed talk, SCICADE 2024, Singapore.

C53) "Convolution Quadrature for the quasilinear subdiffusion equation", Invited talk 30' at the workshop "XIII Forum of Partial Differential Equations", June 26-29, 2024, Będlewo, Poland.

C52) "Fast and oblivious generalized CQ for sectorial problems", Invited talk 30' at the workshop "Singular and Oscillatory Integration: Advances and Applications", June 24-26, 2024, University College London (UCL), UK.

C51) "Convolution Quadrature for the quasilinear subdiffusion equation", Invited talk 30' at the workshop "Exploiting Algebraic and Geometric Structure in Time-Integration Methods". April 3-5, 2024, Scuola Normale di Pisa, Italy.

C50) "Convolution Quadrature for the quasilinear subdiffusion equation", Invited talk 30' at the session "Advanced numerical techniques for the solution of differential problems" at the RSME conference. January 22-26, 2024, Pamplona, Spain.

C49) "Generalized convolution quadrature for sectorial problems", Invited talk 30', "11th Workshop on Numerical Methods for Evolution Equations". September 22-23, 2023, FORTH, Heraklion, Crete, Greece.

C48) "Generalized Convolution Quadrature for the fractional integral and fractional diffusion equations". Invited talk 25' at the session "Numerical methods for fractional-derivative problems", at the conference ENUMATH 2023, September 3-8, 2023. Lisbon, Portugal.

C47) "Generalized Convolution Quadrature for sectorial problems". Invited talk 30', at the workshop "PoWER 2023: Propagation of Waves", July 26-28, 2023. Turin, Italy.

C46) "Generalized Convolution Quadrature for the fractional integral and fractional diffusion equations". Invited talk 25' at the session "Fractional Differential Problems: Theoretical Aspects, Algorithms and Applications", at the conference "ECMI Conference on Industrial and Applied Mathematics", June 26-30, 2023. Wrocław, Poland.

C45) "Generalized Convolution Quadrature for the fractional integral and fractional diffusion equations". Invited talk 25' at the session "Computational mathematics for partial differential equations: theory and applications", at the conference "Large Scale Scientific Computations". June 5-9, 2023, Sozopol, Bulgaria.

C44) "New fast and oblivious convolution quadrature based on the global inversion of the Laplace transform". Invited Talk 20' at the session "Integral equations: recent developments in numerics and applications" at the Conference "Functional Analysis, Approximation Theory and Numerical Analysis" (FAATNA2022). July 5-8, 2022. Matera, Italy.

C43) "Directional H²-Matrices for lossy Helmholtz problems". Plenary speaker at "Mathematics of Wave Phenomena 2022". February 14-18, 2022. KIT, Karlsruhe, Germany (online).

C42) "Efficient algorithms for convolutions tailored to applications". Invited Talk 30' at the session "Numerical Methods in Physics and Engineering in the "Biennial Conference of the Spanish Royal Mathematical Society". January 17-21, 2022. Ciudad Real, Spain.

C41) "Global in time inversion of Laplace transforms associated to evolution problems", Invited Talk 30', "10th Workshop on Numerical Methods for Evolution Equations". 17-18 September 2021, FORTH, Heraklion, Crete, Greece.

C40) "Efficient algorithms for convolutions based on contour integral methods". Invited Talk 60'. Workshop "Computational Complex Analysis". 9-13 December 2019. Isaac Newton Institute for Mathematical Sciences, University of Cambridge, UK.

C39) "Efficient algorithms for Schrödinger equations with concentrated potentials". Invited Talk 30', Presented at the Workshop "XXI CONGRESSO DELL'UNIONE MATEMATICA ITALIANA". 2-6 September 2019, University of Pavia, Italy.

C38) "Directional H2-Matrices for Helmholtz Problems with Complex Frequency", Invited Talk 30', Minisymposium "Wave problems" at SciCADE 2019, 22-26 July 2019, University of Innsbruck, Austria.

C37) "Efficient algorithms for Schrödinger equations with concentrated potentials", Invited Talk 40', Presented at the Workshop "Nonlinear Evolution Equations: Analysis and Numerics". 3-9 February 2019, MFO, Oberwolfach, Germany.

C36) "Mosaic-free efficient algorithms for time-fractional differential equations", Invited Talk 30', "9th Workshop on Numerical Methods for Evolution Equations". 21-22 September 2018, FORTH, Heraklion, Crete, Greece.

C35) "Efficient high order algorithms for the fractional integral and associated FDEs", Contributed Talk 25' at the "10th workshop Structural Dynamical System: Computational Aspects-SDS2018", 12-15 June 2018, Capitolo (Monopoli), Bari, Italy.

C34) "Fast and oblivious algorithms for dissipative and 2D wave equations", Invited Talk 30' at Minisymposium "Numerical Methods for Nonlocal Problems" of the "27th Biennial Conference on Numerical Analysis", 27-30 June 2017, University of Strathclyde, Glasgow, United Kingdom.

C33) "Efficient resolution of wave scattering problems", Invited Talk 45' at the Workshop "Women in PDE", 27-28 April 2017, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany.

C32) "Time or space adaptivity for exterior wave problems with GCQ". Presented at the Workshop "Space-time Methods for Time-dependent Partial Differential Equations". March 13-17, 2017, MFO, Oberwolfach, Germany.

C31) "High order generalized convolution quadrature and some issues with adaptivity", Invited Talk 30'. Presented at the "8th Workshop on Numerical Methods for Evolution Equations". September 23-24, 2016, FORTH, Heraklion, Crete, Greece.

C30) "Solving convolutions equations with variable steps", Invited Talk 25'. Presented at the workshop "5th Stability and Discretization Issues in Differential Equations (SDIDE) 2016". June 21-24, 2016, University of Trieste, Italy.

C29) "Fast and oblivious algorithms for dissipative and 2D wave equations", Contributed Talk 25'. Presented at the workshop "9th Structural Dynamical Systems (SDS) 2016". 14-17 June 2016, Capitolo-Monopoli, Italy.

C28) "Fast and oblivious algorithms for dissipative and 2D wave equations", Invited Talk 30'. Presented at the workshop "Computational and Numerical Analysis of Transient Problems in Acoustics, Elasticity, and Electromagnetism". 17-22 January 2016, Banff International Research Station (BIRS), Banff, Canada.

C27) "Runge-Kutta based generalized convolution quadrature". Plenary speaker at "Conference of Numerical Analysis and Applied Mathematics 2015 (ICNAAM 2015)", 23-29 September 2015, Rhodes, Greece.

C26) "Towards time adaptivity for convolution equations arising in wave problems". Invited Talk 40'. Workshop for Young Researchers in Mathematics, Facultad de Matemáticas, Universidad Complutense de Madrid, 21 September 2015, Madrid, Spain

C25) "Laplace transform methods for evolution equations". Plenary speaker at "Congreso de Jóvenes Investigadores de la Real Sociedad Española de Matemáticas", 8-11 September 2015, University of Murcia, Spain

C24) "Variable time stepping for wave scattering problems". Invited Talk 30'. Presented at the Special Session "Direct and Inverse Problems in Wave Propagation" of the 10TH AIMS INTERNATIONAL CONFERENCE. Madrid (Spain), 07/07/2014-11/07/2014.

C23) "Runge-Kutta Generalized Convolution Quadrature". Invited Talk 35'. Presented at the Workshop "Boundary Integral Equations Analysis and Computation". International Centre for Mathematical Sciences, Edinburgh (United Kingdom), 27/05/2014-29/05/2014.

C22) "Fast Convolution Quadrature based impedance boundary conditions". Contributed Talk 20'. Presented at the Workshop "Swiss Numerics Day". Zurich (Switzerland), 25/04/2014.

C21) "Fast Convolution Quadrature for impedance boundary conditions". Invited Talk 30'. Presented at the Workshop "Nonlinear Evolution Equations: Analysis and Numerics". Oberwolfach (Germany), 17/03/2014-21/03/2014.

C20) "Generalized Convolution Quadrature with Variable Time Stepping". Invited Talk 30'. Presented at the Conference "Workshop on Nonlocal Problems". Zurich (Switzerland), 12/12/2012-14/12/2012.

C19) "Variable time stepping for retarded potentials". Invited Talk 30'. Presented at the Conference "6th Workshop on Numerical Methods for Evolution Equations". Heraklion, Crete (Greece), 21/09/2012-22/09/2012.

C18) "A variable time stepping method for the approximation of retarded potentials". Contributed Talk 25'. Presented at the Conference "7th European Conference on Elliptic and Parabolic Problems". Gaeta (Italy), 21/05/2012-25/05/2012.

C17) "A Generalized Convolution Quadrature with Variable Time Stepping". Contributed Talk 30'. Presented at the Conference "4th Workshop BEM on the Saar 2012". Saarbrücken (Germany), 14/05/2012- 16/05/2012.

C16) "A nonlocal moving frame to approximate traveling waves". Invited Talk 40'. Presented at the Conference "II Encuentro conjunto RSME-SMM". Málaga (Spain), 17/01/2012- 20/01/2012.

C15) "The inversion of the Laplace transform and exponential integrators for parabolic problems". Invited Talk 60'. Presented at the Workshop "Laplace transform methods and their applications". Daejeon (South Korea), 01/11/2011- 05/11/2011.

C14) "Approximating travelling waves by equilibria of non local equations". Invited Talk 30'. Presented at the Conference "Congreso de Jóvenes Investigadores RSME". Soria (Spain), 05/09/2011- 09/09/2011.

C13) "Approximating travelling waves by equilibria of non local equations". Talk 30'. Presented at the Workshop "Pro*Doc Retreat". Disentis/Múster (Switzerland), 17/08/2011- 19/08/2011.

C12) "Approximating travelling waves by equilibria of non local equations". Contributed Talk 20'. Presented at the Conference "ICIAM 2011". Vancouver (Canada), 18/07/2011- 22/07/2011.

C11) "A quadrature based method for evaluating the exponential-type functions for exponential methods". Contributed Talk 20'. Presented at the Conference "NUMDIFF-12". Halle (Germany), 14/09/2009 - 18/09/2009.

C10) "A quadrature based method for evaluating the exponential-type functions for exponential methods". Contributed Talk 30'. Presented at the Conference "SciCADE 09". Beijing (China), 25/05/2009 - 29/05/2009.

C9) "The emergence of traveling waves under a comoving change of coordinates". Invited Talk 45'. Presented at the Workshop "IV Jornada de Dinámica Infinito Dimensional, EDPs y Numérico". Universidad Complutense de Madrid, Madrid (Spain), 06/11/2008.

C8) "Adaptive, fast, and oblivious convolution in evolution equations with memory". Invited Talk 60'. Presented at the Workshop "Dispersive long wave models: control theory and boundary value problems". Wolfgang Pauli Institut, Viena (Austria), 15/10/2007 - 19/10/2007.

C7) "Convolución adaptativa, rápida y con poca memoria para ecuaciones de evolución con memoria". Contributed Talk 20'. Presented at the Conference "CEDYA 2007". Sevilla (Spain), 24/09/2007 - 28/09/2007.

C6) "Adaptive, fast, and oblivious convolution in evolution equations with memory". Contributed Talk 30'. Presented at the Conference "SciCADE 07". Saint-Malo (France), 09/07/2007 - 13/07/2007.

C5) "Fast Runge-Kutta approximation of inhomogeneous parabolic equations". Contributed Talk 20'. Presented at the Conference "NUMDIFF-11". Halle (Germany), 04/09/2006 - 08/09/2006.

C4) "The numerical inversion of the Laplace transform. Applications to evolution problems with memory". Contributed Talk 20'. Presented at the Workshop "Innovative Methods for Solving Evolutionary Problems with Memory". Capri (Italy), 19/06/2006 - 21/06/2006.

- C3) “Un método de orden espectral para invertir transformadas de Laplace sectoriales”. Contributed Talk 20'. Presented at the Conference “CEDYA 2005”. Leganés (Madrid, Spain), 19/09/2005 - 23/09/2005.
- C2) “A spectral order method for inverting sectorial Laplace transforms”. Contributed Talk 20'. Presented at the “Biennial Dundee Numerical Analysis Conference 2005”. Dundee (Scotland, UK), 28/06/2005 - 01/07/2005.
- C1) “Sobre la inversión numérica de la transformada de Laplace de ciertas aplicaciones holomorfas”. Contributed Talk 20'. Presented at the Conference “MAT.ES 2005”. Valencia (Spain), 31/01/2005 - 04/02/2005.

CONFERENCE ORGANIZATION

- O5) Organizer of the minisymposium “Numerical Methods for Nonlinear and Nonlocal Transient Phenomena”, jointly with Lehel Banjai, in the “Conference on Mathematics of Wave Phenomena”, 22-28 February 2025, KIT, Karlsruhe, Germany.
- O4) Member of the organizing committee of the online seminar series “One World Numerical Analysis”, hosted by ICMS Edinburgh (UK), since 22/3/2021 till 2024.
- O3) Member of the scientific and organizing committees of the international conference “HA-LU 2019”, 17-21 June 2019, GSSI L'Aquila.
- O2) Organizer of the minisymposium “Non-Standard Time Integration of Evolutionary Problems”, jointly with Raffaele D'Ambrosio, in the SIMAI Conference 2018, 2-6 July 2018, Roma.
- O1) Joint organizer with Ángel Durán of the special session “Evolution models with nonlocal terms: theory and numerical approximation”. XXIV Congress on Differential Equations and Applications/XIV Congress on Applied Mathematics (CEDYA/CAM), 8-12 June 2015, Cádiz, Spain.

INVITED SEMINARS

- S29) "Generalized convolution quadrature for non smooth sectorial problems", invited talk 60', Seminario de EDP e Matematica Aplicada, October 30, 2024, Brazil (online).
- S28) "Directional H2-Matrices for lossy Helmholtz problems", Chalmers University of Technology, Sweden. Invited by Prof. David Cohen, 24/03/2021 (online).
- S27) "Pseudospectral roaming contour integral methods for convection-diffusion equations". One World Numerical Analysis, series of online seminars hosted by the ICMS in Edinburgh, UK, 22/3/2021.
- S26) "Efficient algorithms for convolutions tailored to applications", University of Leicester, UK. Invited by Alberto Paganini, 4/03/2021 (online).
- S25) "Directional H2-Matrices for Helmholtz Problems with Complex Frequency", Courant Institute of Mathematical Sciences, New York University. Invited by Professor Leslie Greengard, 25/10/2019.
- S24) "Efficient algorithms for time convolutions tailored to applications: fractional differential equations and Schrödinger problems with concentrated potentials", CCM Flatiron Institute. Invited by Professor Leslie Greengard, 23/10/2019.
- S23) "Variable time-stepping approximation of convolution equations arising in wave scattering problems". Division of Mathematics, University of Dundee, UK. Invited by Professor Agis Athanassoulis, 01/10/2018.
- S22) "Efficient high order algorithms for the fractional integral and associated FDEs". School of Mathematics, Heriot-Watt University, Edinburgh, UK. Invited by Professor Lehel Banjai, 18/05/2018.
- S21) "Efficient high order algorithms for the fractional integral and associated FDEs". Departments of Mathematics, University Carlos III of Madrid, Spain. Invited by Professor Fernando Lledó, 05/04/2018.
- S20) "The generalized convolution quadrature for wave problems". Institute of Informatics, University of Kiel, Germany. Invited by Professor Steffen Börm, 18/07/2017.
- S19) "Fast and oblivious algorithms for dissipative and 2D wave equations". Department of Mathematics "Guido Castelnuovo", Sapienza University of Rome, Italy. Invited by Professor Alessandro Teta, 10/05/2016.
- S18) "Contour integral methods for retarded potentials". Invited seminar. ICMAT Madrid, Spain. Invited by Professor Ángel Castro, 9/12/2015.
- S17) "Time-stepping methods for convolution equations arising in wave scattering problems". Invited seminar. Departamento de Matemática Aplicada, Universidad Complutense de Madrid (Spain). Invited by Professor Jose María Arrieta, 26/05/2015.
- S16) "Runge-Kutta Generalized Convolution Quadrature". Invited seminar. Karlsruhe Institute of Technology (KIT), Karlsruhe (Germany). Invited by Professor Marlis Hochbruck, 23/06/2014.
- S15) "Generalized Convolution Quadrature with Variable Time Stepping". Mathematik kolloquium. Institut für Mathematik, Universität Innsbruck, Innsbruck (Austria). Invited by Professor Alexander Ostermann, 08/11/2012.
- S14) "Resolución numérica de ecuaciones convolutivas y aplicaciones". Seminar of Mathematical Analysis. Universidad de Málaga, Málaga (Spain). Invited by Professor Carlos Parés Madroñal, 13/04/2012.
- S13) "Contour integral methods for parabolic equations". Seminar of Numerical Analysis. University of Bielefeld, Bielefeld (Germany). Invited by Professor Wolf-Jürgen Beyn, 09/05/2011.
- S12) "A quadrature based method for evaluating the exponential-type functions for exponential methods". SAM Kolloquium, ETH Zurich (Switzerland). Invited by Professor Daniel Kressner, 27/10/2010.
- S11) "Adaptive, fast and oblivious convolution in evolution equations with memory". Max-Planck-Institute for Mathematics in the Sciences, Leipzig (Germany). Invited by Doctor Lehel Banjai, 05/05/2010.
- S10) "Adaptive, fast and oblivious convolution in evolution equations with memory". Mathematisches Institut, Heinrich-Heine-Universität, Düsseldorf (Germany). Invited by Professor Achim Schädle, 29/04/2010.
- S9) "The emergence of traveling waves for reaction-diffusion equations under a co-moving change of coordinates". CDSNS Colloquium organized by Yingfei Yi. School of Mathematics, Georgia Tech University, Atlanta (USA), 30/11/2009.
- S8) "The emergence of traveling waves under a co-moving change of coordinates". Institut für Numerische und Angewandte Mathematik. University of Tübingen, Tübingen (Germany). Invited by Professor Christian Lubich, 12/11/2009.
- S7) "Adaptive, fast and oblivious convolution in evolution equations with memory". Institut für Mathematik, Universität Zurich, Zurich (Switzerland). Invited by Professor Stefan Sauter, 05/11/2009.
- S6) "The numerical inversion of the Laplace transform with applications to evolution problems". Seminario de Análisis y Aplicaciones ICMAT, Madrid (Spain). Invited by Professor Juan José López Velázquez, 29/04/2009.
- S5) "The numerical inversion of the Laplace transform with applications to evolution problems". Seminario del grupo "GAMA", Group of Applied Mathematical Analysis, Departamento de Matemáticas, Universidad Carlos III de Madrid (Spain). Invited by Professor Francisco Marcellán Español, 19/02/2009.
- S4) "The numerical inversion of the Laplace transform with applications to evolution problems". Chinese Academy of Sciences, Beijing (China). Invited by Professor Xu Zhang, 02/06/2008.

S3) "La inversión numérica de la transformada de Laplace. Aplicaciones a problemas de evolución". IMDEA-Matemáticas (Instituto Madrileño de Estudios Avanzados), Madrid (Spain). Invited by Professor Enrique Zuazua Iriondo, 15/02/2008.

S2) "A spectral order method for inverting sectorial Laplace transforms". Institut für Numerische und Angewandte Mathematik. University of Tübingen, Tübingen (Germany). Invited by Professor Christian Lubich, 26/04/2005.

S1) "A spectral order method for inverting sectorial Laplace transforms". Institut für Numerische und Angewandte Mathematik. University of Göttingen, Göttingen (Germany). Invited by Professor Thorsten Hohage, 19/04/2005.

TEACHING EXPERIENCE

Undergraduate courses:

T1) DIPLOMATURA EN ESTADÍSTICA (*Bachelor in Statistics*). Universidad de Valladolid (Spain).

Course 2001-02:

- Linear Algebra, 1st course. Problems sessions, 18 hours.
- Infinitesimal Calculus, 1st course. Problems sessions, 18 hours.

Courses 2003-04, 2004-05, 2005-06, 2006-07:

- Mathematics, 2nd course. Problems sessions, 30 hours/course.

T2) LICENCIATURA EN MATEMÁTICAS (*Bachelor in Mathematics*). Universidad de Valladolid (Spain).

Course 2003-04:

- Numerical Methods, 3rd course. Problems sessions, 30 hours.

T3) INGENIERÍA SUPERIOR DE TELECOMUNICACIÓN (*Telecommunications Engineer*). Universidad de Valladolid (Spain).

Courses 2004-05, 2005-06, 2006-07:

- Partial Differential Equations, 2nd course. Problems sessions 60 hours/course.

T4) INGENIERÍA SUPERIOR DE TELECOMUNICACIÓN (*Telecommunications Engineer*). Universidad Autónoma de Madrid (Spain).

Course 2008-09:

- Partial Differential Equations and Numerical Analysis, 2nd course. Theory, 45 hours.

T5) INGENIERÍA SUPERIOR INDUSTRIAL (*Industrial Engineer*). Universidad Carlos III de Madrid (Spain).

Course 2008-09:

- Linear Algebra, 1st course. Theory, 84 hours.

T7) "Numerical Solution of Differential Equations: Theory, Numerics and MATLAB". Bachelor course of 28 hours. Universität Zürich. Fall semester 2010, 2012 and 2013. University of Zurich (Switzerland).

T8) "Numerik 1 für Informatik". Bachelor course of 28 hours. Spring semesters 2011, 2012 and 2014. University of Zurich (Switzerland).

T9) "Numerik III" (Numerical methods for evolutionary problems). Master course of 28 hours. Fall semester 2011. University of Zurich (Switzerland).

T10) "Analisi Numerica", Master course of 60 hours for students of Civil Engineering. Spring semester 2016. Sapienza University of Rome (Italy).

T11) "Corso di MATLAB", Bachelor course of 30 hours for students of Mathematics. Spring semester 2016, Fall semester 2016, Fall semester 2018. Sapienza University of Rome (Italy).

T12) "Metodi numerici di approssimazione", Bachelor course of 60 hours for students of Mathematics on numerical methods for ODEs. Fall semester 2016. Sapienza University of Rome (Italy).

T13) "Laboratorio di Programmazione e Calcolo", Bachelor course of 90 hours for students of Mathematics. Introduction to programming in C/C++ and introduction to numerical analysis. Fall semester 2017 e 2018. Sapienza University of Rome (Italy).

T14) "Corso di Python", Master course of 12 hours for students of Mathematics. Spring semester 2019. Sapienza University of Rome (Italy).

T15) "Análisis Numérico", Bachelor course of 30 hours (I taught half the course) for students in the third year of the Mathematics degree. Spring semester 2020. University of Málaga (Spain).

T16) "Métodos Numéricos I", Bachelor course of 60 hours for students in the second year of the Mathematics degree. Fall semester 2020-2024. University of Málaga (Spain).

T17) “Métodos Numéricos II”, Bachelor course of 30 hours for students in the second year of the Mathematics degree. Spring semester 2022. University of Málaga (Spain).

T18) “Modelado Matemático”, Bachelor course of 40 hours for students in the second year of the Environmental Sciences degree. Spring semester 2023, 2024. University of Málaga (Spain).

Graduate courses:

G1) “SIMUMAT Summer School 2009”, Postgraduate course of 5 hours during the week of title “Evolution equations and numerical analysis”. Castro Urdiales (Cantabria, Spain), 13/07/2009 - 17/07/2009.

G2) “Numerical Methods”, 42-hour course for Mathematics PhD students. Fall semester 2014. Gran Sasso Science Institute (GSSI), L’Aquila (Italy).

G3) “Contour integral methods for evolutionary PDEs”, 20-hour course for Mathematics PhD students. Spring semester 2017. Department of Mathematics, Sapienza University of Rome, Rome (Italy).

G4) “Contour integral methods for evolutionary PDEs”, 10-hour course for Mathematics PhD students. Spring semester 2018. Gran Sasso Science Institute (GSSI), L’Aquila (Italy).

G5) “Contour integral methods for the numerical approximation of evolution equations”, 6-hour course for the JAE School of Mathematics. July 3-7, 2023. Instituto de Ciencias Matematicas (ICMAT-CSIC), Madrid (Spain).

Supervision of Bachelor Thesis:

B1) Sara Marzella, “Il metodo delle differenze finite per problemi ai limiti unidimensionali”. Department of Mathematics, Sapienza University of Rome, Rome (Italy). October 2016.

B2) Michelangelo Marsala, “Splines e B-spline”. Department of Mathematics, Sapienza University of Rome, Rome (Italy). November 2017.

B3) Maria Mercedes Alcaraz Moreno, “Singular value decomposition, its numerical approximation and applications”, University of Malaga, July 2020.

B4) Julio Maqueda Garcia, “The exponential convergence of the trapezoidal rule for holomorphic integrands”, University of Malaga, July 2020.

B5) Jose Antonio Urbano, “Gaussian Integration Methods”, University of Malaga, September 2022.

Supervision of Master Theses:

M1) Reto Schnyder, “Time and Space Adaptive Solutions to Retarded Potential Integral Equations”, joint supervision with Prof. Stefan Sauter. Institute of Mathematics, University of Zurich. April 2013.

M2) Martino Antognini, “Sensitivity Analysis for Boundary Element Quadrature”, joint supervision with Prof. Stefan Sauter. Institute of Mathematics, University of Zurich. July 2014.

M3) Gianni Gagliardi, “Convolution quadrature and fast algorithms for the Schrödinger equation”, Department of Mathematics, Sapienza University of Rome (Italy), January 2018.

M4) Ludovica Cicci, “Step control for the generalized Convolution Quadrature of the first order”, Department of Mathematics, Sapienza University of Rome (Italy), January 2018.

M5) Santiago Cuenca, “Markov Chain Monte Carlo methods”, University of Malaga, Septiembre 2022.

M6) Francisco Borrego, “Fast Convolution Quadrature for the Fractional Integral”, Septiembre 2023.

Supervision of PhD Theses:

D1) Giancarlo Nino, “Laplace transform methods based on pseudospectral roaming for convection-diffusion equations”, GSSI-Università di L’Aquila, July 17, 2018. Joint supervision with Nicola Guglielmi, GSSI, L’Aquila, Italy.

PARTICIPATION IN TEACHING GRANTS

TITLE: Proyecto Piloto para la adecuación de primer y segundo curso de diplomado de Estadística al EEES (Espacio Europeo de Educación Superior). (*Pilot Project for the adaptation of the first and the second courses of the bachelor degree in Statistics to the European Higher Education Area. (Bologna process)*).

ACADEMIC COURSE 2006/2007.

FINANCED BY: Consejería de Educación de la Junta de Castilla y León.

PARTICIPANT INSTITUTIONS: Universidad de Valladolid (Spain).

DIRECTOR: Jose Antonio Menéndez Fernández

TITLE: Adaptación de la docencia de las asignaturas de Primer Curso de Grado y de Ingeniería Industrial y de Telecomunicación. (*Teaching adaptation of the first year subjects of bachelor degrees, Industrial and Telecommunication Engineer. (Bologna process)*).

ACADEMIC COURSE 2008/2009.

FINANCED BY: Universidad Carlos III de Madrid (Spain).

PARTICIPANT INSTITUTIONS: Universidad Carlos III de Madrid.

OTHER MERITS

- 1) ASSOCIATE EDITOR of the Journal on Scientific Computing (JOMP), since December 2024.
- 2) ASSOCIATE EDITOR of the journal Advances in Computational Mathematics (ACOM), since July 2024.
- 3) ASSOCIATE EDITOR of the SIAM Journal on Numerical Analysis, since January 2020.
- 4) Italian “Abilitazione” as “Professore di Prima Fascia” (Full Professor), April 2018.
- 5) Italian “Abilitazione” as “Professore di Seconda Fascia” (Associate Professor), March 2017.
- 6) French “Qualification” as “Professeur des universités” (Associate Professor), February 12, 2014.
- 7) Member of the panel of experts of the Spanish National Evaluation and Foresight Agency (ANEP) since April 2012.
- 8) Positive Accreditation as “Contratado Doctor” and “Profesor de Universidad Privada” (permanent positions in the Spanish academic system) by the Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA). September 2010.

9) REFEREE OF THE JOURNALS

- a) SIAM Journal on Numerical Analysis, 2005, 2006, 2007, 2009, 2010, 2016, 2017, 2018, 2020.
- b) Journal of Computational and Applied Mathematics, 2005, 2006.
- c) IMA Journal of Numerical Analysis, 2008.
- d) Applied Numerical Mathematics, 2010, 2016.
- e) SIAM Journal on Scientific Computing, 2011, 2014.
- f) Journal of Computational Finance, 2012.
- g) Mathematical Modelling and Numerical Analysis (M2AN), 2012.
- h) Mathematics of Computation, 2015.
- i) Numerical Algorithms, 2015
- j) Discrete and Continuous Dynamical System – Series A, 2015
- k) Numerische Mathematik, 2014, 2015
- l) Applied Mathematics and Computation, 2018, 2019
- m) Computers and Mathematics with Applications, 2019
- n) BIT Numerical Mathematics, 2019, 2020.
- o) Calcolo, 2019
- p) Advances in Computational Mathematics, 2019, 2020.
- q) Mechanical Systems and Signals, 2020.
- r) Computer Physics Communications, 2020.

10) PARTICIPANT AT OTHER COURSES AND CONFERENCES

- a) “X Escuela de Otoño Hispano-Francesa sobre Simulación Numérica en Física e Ingeniería”. (*X Hispano-French Fall School on Numerical Simulation in Physics and Engineering*). Organized by INRIA and the Department of Applied Mathematics of the University of Zaragoza. Jaca (Huesca, Spain), 23/09/2002 - 27/09/2002.
- b) Course and Workshop “Zaragoza Numérica”. Zaragoza, 18/06/2007 - 22/06/2007.
- c) Summer School “Numerical Analysis and Control in Fluids”, Castro Urdiales (Cantabria, Spain), 16/07/2007 - 20/07/2007.
- d) Workshop “Partial Differential Equations, optimal design and numerics”, Benasque (Huesca, Spain), 26/08/2007 - 07/09/2007.
- e) Summer School “Control, Optimization and Simulation in Engineering”, Castro Urdiales (Cantabria, Spain), 14/07/2008 - 18/07/2008.
- f) “Time Domain Boundary Integral Equations: Algorithms, Analysis, Applications”, Max-Planck-Institute for Mathematics in the Sciences. Leipzig (Germany), 04/05/2011-06/05/2011.
- g) Workshop “Pro*Doc Retreat”. Disentis/Múster (Switzerland), 15/08/2012- 17/08/2012.
- h) Summer School “Geometric Integration of Ordinary and Partial Differential Equations”, Dobbiaco, Italy, 16/06/2013 – 21/06/2013.

11) PROFESSIONAL SOCIETIES

- a) Member of the “Sociedad Española de Matemática Aplicada” (SEMA) (*Spanish Society of Applied Mathematics*).
- b) Member of the “Real Sociedad Española de Matemáticas” (RSME) (*Spanish Royal Society of Mathematics*).
- c) Member of the “Swiss Mathematical Society” (2011-2014).
- d) Member of the GNCS. Istituto Nazionale di Alta Matematica (INdAM) (since 2015)
- e) Member of the “Unione Matematica Italiana” (UMI) (2019-2020)