

CURRICULUM VITAE

FRANCISCO MARCELLAN ESPAÑOL

February 1, 2013

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EDUCATION

1.- M. Sc. Mathematics

Dates attended: 1968-73. Universidad de Zaragoza. Facultad de Ciencias.

Degree date: July 5, 1973.

2.- Ph. D. Mathematics.

Dates attended: 1973-76. Universidad de Zaragoza. Facultad de Ciencias.

Degree date: December 20, 1976.

Title: "Polinomios ortogonales sobre cassinianas"

Advisor: Dr. Luis Vigil y Vázquez.

ACADEMIC EXPERIENCE

Teaching Assistant (Calculus). Facultad de Ciencias. Universidad de Zaragoza. October 1, 1972- September 30, 1974.

Assistant Professor (Calculus and Advanced Calculus). ETS Ingenieros Industriales. Universidad de Zaragoza. October 1, 1974- October 21, 1976.

Assistant Professor (Complex Analysis). Colegio Universitario de Logroño. October 1, 1975- September 30, 1976.

Assistant Professor (Calculus). ETS Ingenieros Industriales. Universidad de Zaragoza. October 22, 1976- April 1, 1979.

Associate Professor (Calculus and Linear Algebra). ETS Ingenieros Industriales. Universidad de Zaragoza. Número de Registro Personal: A 44 EC 3392. April 2, 1979- April 28, 1981.

Full Professor (Calculus and Linear Algebra). ETS Ingenieros Industriales. Universidad de Santiago. Número de Registro Personal: A 42 EC 1811. April 29, 1981- September 30, 1982.

Full Professor (Linear Algebra, Partial Differential Equations). ETS Ingenieros Industriales. Universidad Politécnica. Madrid. Número de Registro Personal: A 42 EC 1811. October 1, 1982- March 2, 1984.

Full Professor (Linear Algebra, Ordinary Differential Equations, and Partial Differential Equations). ETS Ingenieros Industriales. Universidad Politécnica Madrid. Número de Registro Personal: A 01 EC 3237. March 3, 1984- September 30, 1991.

Full Professor (Linear Algebra, Calculus II, Differential Equations, Partial Differential Equations, Mathematical Methods in Telecommunication). Escuela Politécnica Superior. Universidad Carlos III de Madrid. Número de Registro Personal: 18157056-13. October 1, 1991- present.

Visiting Profesor (Calculus III, Linear Algebra for Calculus). School of Mathematics. Georgia Institute of Technology. Atlanta, GA. USA. August 1-December 31, 2003, January 1-May 31, 2010.

GRADUATE COURSES

Linear Methods in Applied Analysis. ETS Ingenieros Industriales. Universidad Politécnica. Madrid. 6 credits. 1985-86, 1986-87.

Numerical Linear Algebra. ETS Ingenieros Industriales. Universidad Politécnica. Madrid. 6 credits. 1987-88, 1988-89.

Numerical Methods for Solving Linear Systems of Equations. ETS Ingenieros Industriales. Universidad Politécnica. Madrid. 3 credits. 1989-90, 1990-91, 1991-92.

Numerical Methods for Eigenvalue Problems. ETS Ingenieros Industriales. Universidad Politécnica. Madrid. 3 credits. 1989-90, 1990-91, 1991-92.

Numerical Methods for Initial Value Problems. ETS Ingenieros Industriales. Universidad Politécnica. Madrid. 3 credits. 1990-91, 1991-92.

Aproximation Theory. Departamento de Matematica. Universidade de Coimbra. 2 credits. 1990-91

Orthogonal Polynomials and Linear Systems. Departamento de Matemática Aplicada. Universidad de Santiago. 2 credits. 1988-89.

Orthogonal Polynomials and Eigenvalue Problems for Differential Operators. Departamento de Matemática Aplicada. Universidad de Santiago. 2 credits. 1988-89.

Numerical Linear Algebra. Departamento de Ingenieria. Universidad Carlos III de Madrid. 4 credits. 1993-94.

An Introductory Course on Approximation Theory. Departamento de Ingenieria. Universidad Carlos III de Madrid. 4 credits. 1993-94.

Advanced Methods in Matrix Analysis. Departamento de Ingenieria. Universidad Carlos III de Madrid. 4 credits. 1994-95, 1997-98, 1998-99, 1999-2000, 2000-01, 2001-02, 2002-03.

Approximation Theory II. Departamento de Ingenieria. Universidad Carlos III de Madrid. 4 credits. 1994-95, 1995-96, 1996-97.

Special Functions in Mathematical Physics. Departamento de Matematicas. Universidad Carlos III de Madrid. 4 credits. 2003-04, 2007-08, 2008-09, 2009-10, 2010-11.

Spectral and Pseudospectral Methods for Differential Equations. Departamento de Matemática Aplicada. Universidad de Vigo. 2 credits. 1994-95.

Master Course on Numerical Simulation. Departamento de Matematica Aplicada e Informatica. ETS Ingenieros de Minas. Universidad Politecnica Madrid. October 1989-January 1991.

European Intensive Course on Complex Analysis “Hypercomplex systems and their application to nonlinear perturbed partial differential Equations”. Departamento de Matematica. Universidade de Coimbra. 1 credit (10 hours):

March 1998. Asymptotic Properties of Orthogonal Polynomials on the unit circle.

March 1999. Computational Methods and Orthogonal Polynomials.

March 2000. Orthogonal Rational Functions

March 2001. Operator Theory and Moment Problems.

March 2002. Approximation Theory and Weighted Sobolev Spaces.

May 2003. Orthogonal Polynomials on the unit circle. From Gabor Szegő to Barry Simon.

Summer School on Orthogonal Polynomials and Special Functions. IP Sócrates Erasmus. Universidade de Coimbra. 8 hours.

June 2009. Orthogonal polynomials and integrable systems. Ph.D. Programme. Departamento de Matematica Aplicada. Universidad de Vigo.

September 2009. Non standard Orthogonal Polynomials: Algebraic and Analytic Properties. Postgraduate Mathematics Summer School. Universidad de los Andes, Merida, Venezuela. 20 hours.

June 2012. Recent trends on orthogonal polynomials on the unit circle. Escuela Iberoamericana de Polinomios Ortogonales y Aplicaciones. Universidad de Colima, Colima, México. 6 hours.

EXTERNAL CHAIRMAN FOR PH. D. STUDENTS

1.-Leandro Moral Ledesma.

Advisor: Dr. Francisco Marcellán.

“Polinomios Ortogonales sobre curvas equipotenciales de tipo racional”. Facultad de Ciencias. Universidad de Zaragoza. April 1983.

2.-Carlos García Suarez.

Advisor: Dr. Enrique Alarcón.

“El método de los elementos de contorno en el problema de consolidación”. ETS de Ingenieros Industriales. Universidad Politécnica. Madrid. July 1983.

3.-Alicia Cachafeiro López.

Advisor: Dr. Francisco Marcellán.

“Polinomios Ortogonales sobre curvas armónicas de tipo racional”. Facultad de Matemáticas. Universidad de Santiago. June 1984.

4.-Rafael Guadalupe García.

Advisor: Dr. Jaime Vinuesa Tejedor.

“Operador deslizamiento en matrices HDP. Aplicaciones a ceros de polinomios ortogonales y distribuciones en \mathbb{R} ”. Facultad de Ciencias. Universidad de Cantabria. December 1984.

- 5.- Juan Antolín Coma.
Advisor: Dr. Andrés Cruz Flor.
“Análisis de la amplitud de difusión elástica $k \pm p$ hacia delante mediante una parametrización de la función de Stieltjes de la función de discrepancia”. Facultad de Ciencias. Universidad de Zaragoza. January 1985.
- 6.- Francisco Gálvez Cifuentes.
Advisor: Dr. Jesús Sánchez-Dehesa Moreno-Cid.
“Estudio de propiedades medias o globales de sistemas atómicos y nucleares”. Facultad de Ciencias. Universidad de Granada. November 1985.
- 7.- Malik Guerfi.
Advisor: Dr. Pascal Maroni.
“Les polynomes de Laguerre-Hahn affines discrets”. Laboratoire d'Analyse Numérique. Université Pierre et Marie Curie. Paris. January 1988.
- 8.-María José Sodupe Zurbano.
Advisor: Dr. Juan Miguel Gracia Melero.
“Valores singulares de matrices respecto a normas”. Facultad Ciencias. Universidad del País Vasco. January 1988.
- 9.-Antonio Barreiro Blas.
Advisor: Dr. Manuel Alvarez Fernández.
“Estudios de algoritmos de realización parcial para sistemas dinámicos lineales”. ETS Ingenieros Industriales. Universidad Politécnica. Madrid. April 1988.
- 10.-Juan Luis Varona Malumbres.
Advisor: Dr. José Guadalupe Hernández.
“Convergencia en L_p con pesos de la serie de Fourier respecto de algunos sistemas ortogonales”. Facultad de Ciencias. Universidad de Cantabria. December 1988.
- 11.-Mario Pérez Riera.
Advisor: Dr. José Guadalupe Hernández.
“Series de Fourier respecto de sistemas ortogonales: Estudio de la convergencia en espacios de Lebesgue y Lorentz”. Facultad de Ciencias. Universidad de Zaragoza. October 1989.
- 12.-Severiano González Pinto.
Advisor: Dr. Luis Casasús Latorre.
“Tratamiento numérico de Problemas de Valor Inicial singularmente perturbados”. Facultad de Ciencias. Universidad de La Laguna. July 1990.
- 13.-Itziar Baragaña Gárate.
Advisor: Dr. Jon Zaballa.
“Prescripción parcial de haces con una aplicación a la teoría de control”. Facultad de Ciencias. Universidad del País Vasco. September 1990.
- 14.-Said Belmehdi.
Advisor: Dr. Pascal Maroni.
“Formes linéaires et polynomes orthogonaux semi-classiques de classe $s=1$. Description et classification”. Laboratoire d'Analyse Numérique. Université Pierre et Marie Curie. Paris. September 1990.
- 15.- Luis Rouco Rodriguez.
Advisor: Dr. Ignacio Perez Arriaga.
“Estudio de la estabilidad oscilatoria en sistemas eléctricos multiárea”. Departamento de Ingeniería Eléctrica. ETS Ingenieros Industriales. Universidad Politécnica. Madrid. December 1990.

16.-Matilde Legua Fernández.

Advisor: Dr. Lucas Jodar Sánchez.

“Ecuaciones matriciales diferenciales, en diferencias y en derivadas parciales”. Departamento de Matemática Aplicada. Universidad Politécnica. Valencia. February 1991.

17.-Matías Camacho Machín.

Advisor: Dr. Pablo González Vera.

“Sobre funciones racionales asociadas a sucesiones doblemente infinitas”. Departamento de Análisis Matemático. Facultad de Ciencias. Universidad de la Laguna. June 1991.

18.-Inmaculada Hoyos Izquierdo.

Advisor: Dr. Juan Miguel Gracia Melero.

“Perturbación de matrices regulares y haces de matrices”. Departamento de Matemática Aplicada. Facultad de Ciencias. Universidad del País Vasco. June 1991.

19.-Francisco Muñoz Delgado.

Advisor: Dr. Victoriano Ramírez González.

“Aproximación conservativa con operadores polinomiales lineales”. Departamento de Matemática Aplicada. Facultad de Ciencias. Universidad de Granada. September 1991.

20.-María Teresa Gassó Matoses.

Advisor: Dr. Vicente Hernández García.

“Sistemas diferenciales lineales implícitos y factorización de matrices polinomiales”. Departamento de Matemática Aplicada. Facultad de Matemáticas. Universidad de Valencia. November 1991.

21.-Jesús María Montaner Lavedán.

Advisor: Dr. Manuel Alfaro García.

“Matrices de Toeplitz banda y polinomios ortogonales sobre la circunferencia unidad”. Departamento de Matemáticas. Facultad de Ciencias. Universidad de Zaragoza. May 1992.

22.-María del Carmen Suárez Rodríguez.

Advisor: Dra. Alicia Cachafeiro Lopez.

“Polinomios Ortogonales relativos a modificaciones de Funcionales regulares y Hermitianos”. Departamento de Matemática Aplicada. Universidad de Vigo. May 1993.

23.-Carmen Coll Aliaga.

Advisor: Dr. Rafael Bru García.

“Realizaciones Periódicas Discretas de una colección periódica de Matrices Racionales”. Departamento de Matemática Aplicada y Astronomía. Universidad de Valencia. September 1993.

24.-Rafael Company Rossi.

Advisor: Dr. Lucas Jodar Sánchez.

“Soluciones explícitas de ecuaciones diferenciales matriciales con coeficientes variables”. Departamento de Matemática Aplicada. Universidad Politécnica. Valencia. October 1993.

25.-Julián Barquín Gil.

Advisor: Dr. José Luis Fernández González.

“Inestabilidad de Tensiones: Criterios de seguridad”. Escuela Técnica Superior de Ingenieros Industriales. Universidad Pontificia de Comillas. Madrid. November 1993.

26.-José Manuel Aller Castro.

Advisor: Dr. Angel Pérez Coyto.

“Diseño de sistemas complejos de puesta a tierra en terrenos con estratos múltiples y con consideración de su comportamiento en régimen transitorio”. Departamento de Ingeniería Eléctrica. Escuela Técnica Superior de Ingenieros Industriales. Universidad Politecnica Madrid. December 1993.

27.- Eduardo Liz Marzán.

Advisor: Dr. José Antonio Nieto Roig.

“Problemas de Frontera para Nuevos Tipos de Ecuaciones Diferenciales”. Departamento de Matemática Aplicada. Universidad de Vigo. November 1994.

28.- Juana Cerdán Soriano.

Advisor : Dr. Rafael Bru García.

“Algoritmos paralelos para el problema de asignación de polos”. Departamento de Matemática Aplicada. Universidad Politécnica de Valencia. January 1995.

29.- Juan Carlos Santos León.

Advisor: Dr. Pablo González-Vera.

“Fórmulas de cuadratura lineales. Extensiones y Aplicaciones”. Departamento de Análisis Matemático. Universidad de La Laguna. February 1995.

30.- José Miguel González Santos

Advisor: Dra. Ana Isabel Allueva Pinilla.

“Un enfoque multiobjetivo en modelos de programación geométrica. Aplicaciones”. Departamento de Matemática Aplicada. Universidad de Zaragoza. April 1995.

31.- José Manuel Gutiérrez Jiménez.

Advisor: Dr. Miguel A. Hernández Verón.

“La convexidad y el Método de Newton”. Departamento de Matemáticas. Universidad de La Rioja. May 1995.

32.-D. Alejandro Zarzo Altarejos.

Advisor: Dr. Jesús Sanchez-Dehesa Moreno-Cid.

“Ecuaciones Diferenciales de tipo hipergeométrico”. Departamento de Física Moderna. Universidad de Granada. September 1995.

33.- María José Muñoz Bouzo.

Advisors: Dr. Alejandro Balbás de la Corte and Dr. Pedro Jiménez Guerra.

“Límites proyectivos de Medidas valoradas en Retículos de Banach”. Departamento de Matemáticas Fundamentales. Universidad Nacional de Educación a Distancia. October 1995.

34.- Pedro López Rodríguez.

Advisor: Dr. Antonio Durán Guardado.

“Polinomios Matriciales Ortonormales”. Departamento de Análisis Matemático. Universidad de Sevilla. November 1995.

35.- Rafael Yáñez.

Advisor: Dr. Jesús Sanchez-Dehesa Moreno-Cid.

“Entropía de Información, polinomios ortogonales y sistemas multielectrónicos”. Departamento de Física Moderna. Universidad de Granada. April 1996.

36.- Emilio Defez.

Advisor: Dr. Lucas Jódar Sánchez.

“Polinomios ortogonales Matriciales. Teoría y Aplicaciones”. Departamento de Matemática Aplicada. Universidad Politécnica. Valencia. June 1996.

37.- Amílcar Branquinho.

Advisor: Dr. Francisco Marcellán Español.

“Problemas inversos na teoria dos polinomios ortogonais”. Departamento de Matematica. Universidade de Coimbra. October 1996.

38.- María José Cantero Medina.

Advisor: Dr. Manuel Alfaro García.

“Polinomios Ortogonales sobre la circunferencia unidad. Modificaciones de los parámetros de Schur”. Departamento de Matemáticas. Facultad de Ciencias. Universidad de Zaragoza. April 1997.

39.- Jose Carlos Petronilho.

Advisor: Dr. Francisco Marcellán Español.

“Polinomios ortogonais e transformacoes polinomiais. Problemas inversos”. Departamento de Matematica. Universidade de Coimbra. July 1997.

40.- Miguel Angel Hernández Molina.

Advisor: Dr. Antonio García García.

“Teoremas de muestreo asociados a problemas diferenciales y en diferencias”. Departamento de Matemática Aplicada. ETSI Telecomunicación. Universidad Politécnica Madrid. October 1997.

41.- Juan José Moreno Balcázar.

Advisors: Dr. Andrei Martínez Finkelshtein and Dr. Miguel Piñar Gonzalez.

“Propiedades analíticas de los polinomios ortogonales de Sobolev continuos”. Departamento de Matemática Aplicada. Universidad de Granada. October 1997.

42.- Elías Berriochoa Esnaola.

Advisor: Dra. Alicia Cachafeiro López.

“Productos escalares con derivadas y modificaciones a través de formas lineales”. Departamento de Matemática Aplicada. Universidad de Vigo. December 1997.

43.- María del Carmen Perea Marco.

Advisor: Dr. Joan Josep Climent Coloma.

“Teoremas de convergencia y de comparación para particiones y multiparticiones”. Departamento de Estadística e Investigación Operativa. Universidad de Alicante. February 1998.

44.- Daniel Cárdenas Morales.

Advisor: Dr. Francisco Javier Muñoz Delgado.

“Aproximación Conservativa y Teoremas de Korovkin”. Departamento de Matemática Aplicada. Universidad de Granada. February 1998.

45.- Michel Rivier Abbad.

Advisor: Dr. José Ignacio Pérez Arriaga.

“Modelo Probabilista de Explotación de un Sistema Eléctrico: Contribución a la Teoría Marginalista”. Departamento de Electrotecnia y Sistemas. Universidad Pontificia Comillas. Madrid. April 1998.

- 46.- María Alvarez de Morales Mercado.
Advisors: Dr. Miguel Piñar González and Dra. Teresa Pérez Fernández.
“Ortogonalidad no estándar para familias de polinomios clásicos”. Departamento de Matemática Aplicada. Universidad de Granada. July 1998.
- 47.- Klemens Hägele.
Advisors: Dr. Joos Heintz and Dr. Luis Miguel Pardo Vasallo.
“Intrinsic height estimates for the Nullstellensatz”. Departamento de Matemáticas, Estadística y Computación. Universidad de Cantabria. July 1998.
- 48.-Héctor Pijeira Cabrera.
Advisor: Dr. Guillermo López Lagomasino.
“Teoría de Momentos y Propiedades Asintóticas para Polinomios Ortogonales de Sobolev”. Departamento de Matemáticas. Universidad Carlos III de Madrid. October 1998.
- 49.-Pedro Almenar Berenguer.
Advisor: Dr. Lucas Jódar Sánchez.
“Construcción de Soluciones Precisas de Problemas Mixtos para Ecuaciones en Derivadas Parciales con Coeficientes Variables Separables”. Departamento de Matemática Aplicada. Universidad Politécnica de Valencia. June 1999.
- 50.- Venancio Alvarez González.
Advisor: Dr. José Manuel Rodríguez García.
“Estructura de superficies de Riemann, desigualdades isoperimétricas y medida p-armónica en grafos”. Departamento de Matemáticas. Universidad Carlos III de Madrid. June 1999.
- 51.- Ivan Area Carracedo.
Advisor: Dr. Eduardo Godoy Malvar.
“Polinomios Ortogonales de Variable Discreta: Pares Coherentes. Problemas de conexión”. Departamento de Matemática Aplicada. Universidad de Vigo. October 1999.
- 52.- Luis Oriol Mora Valbuena.
Advisor: Dr. Jairo Charris Castañeda.
“Relaciones de recurrencia en bloques y determinación de medidas espectrales a partir de fracciones continuas”. Facultad de Ciencias. Universidad Nacional de Colombia. December 1999.
- 53.- Bernardo de la Calle Ysern.
Advisor: Dr. Guillermo López Lagomasino.
“Propiedades Asintóticas de polinomios ortogonales variantes y aproximación racional”. Departamento de Matemáticas. Universidad Carlos III de Madrid. February 2000.
- 54.- Santiago Garrido Bullón.
Advisors: Dr. Luis Moreno Lorente and Dr. Carlos Balaguer Bernaldo de Quirós.
“Identificación. Estimación y Control de Sistemas no lineales mediante RGO”. Departamento de Ingeniería Eléctrica, Electrónica y Automática. Universidad Carlos III de Madrid. February 2000.
- 55.- Francisco Enrique Velasco Angulo.
Advisor: Dr. Juan Miguel Gracia Melero.
“Estabilidad de Subespacios Invariantes Controlados”. Departamento de Matemáticas. Universidad del País Vasco. May 2000.

- 56.-Maria Jesús Rubio Crespo.
Advisor: Dr. Miguel Angel Hernández Verón.
“Procesos Iterativos definidos mediante Diferencias Divididas”. Departamento de Matemáticas. Universidad de La Rioja. May 2000.
- 57.- José María Grau Ribas.
Advisors: Dr. Pedro Suárez and Dr. Luis Bayón.
“Revisión de las formulaciones clásicas de los problemas de optimización hidrotérmica y fundamentación de posibles generalizaciones”. Departamento de Matemáticas. Universidad de Oviedo. June 2000.
- 58.- María Concepción Besga Armas.
Advisor: Dr. Francisco Luquín Martínez.
“Acotación de normas de polinomios y cuasipolinomios con coeficientes enteros”. Departamento de Matemáticas. Universidad del País Vasco. October 2000.
- 59.- Jorge Pleite.
Advisor: Dr. Emilio Olías Ruiz.
“Herramientas de Modelado para el Mantenimiento Predictivo de Transformadores basado en el análisis de la Respuesta en Frecuencia”. Departamento de Ingeniería Eléctrica, Electrónica y Automática. December 2000.
- 60.- Leyla Daruis.
Advisor: Dr. Pablo González Vera.
“Sobre polinomios de Szegő y fórmulas de cuadratura en la circunferencia unidad”. Departamento de Análisis Matemático. Universidad de La Laguna. April 2001.
- 61.- Pedro Martínez González.
Advisors: Dr. Andrei Martínez Finkelshtein and Dr. Alejandro Zarzo Altarejos.
“Métodos de estudio de la asintótica de ceros de funciones especiales”. Departamento de Estadística y Matemática Aplicada. Universidad de Almería. July 2001.
- 62.- Rosario González Férez.
Advisors: Dr. Jesús Sánchez-Dehesa Moreno-Cid and Dr. Wolfgang Schweizer.
“Espectroscopía atómica en campos eléctricos y magnéticos intensos”. Departamento de Física Moderna. Universidad de Granada. July 2001.
- 63.- Mirta Castro Smirnova.
Advisors: Dr. Alexander I. Aptekarev and Dr. Antonio J. Durán Guardado.
“Matrices de Jacobi, Fracciones Continuas Vectoriales y Productos de Sobolev”. Departamento de Análisis Matemático. Universidad de Sevilla. February 2002.
- 64.- Pedro López Artés.
Advisors: Dr. Andrei Martínez Finkelshtein and Dr. Jesús Sánchez-Dehesa Moreno-Cid.
“Entropías, Potenciales y Linealización de polinomios hipergeométricos”. Departamento de Estadística y Matemática Aplicada. Universidad de Almería. April 2002.
- 65.- Carlos Pérez Iglesias.
Advisor: Dra. Alicia Cachafeiro López.
“Polinomios ortogonales de Laguerre-Hahn afin sobre la circunferencia unidad”. Departamento de Matemática Aplicada. Universidade de Vigo. May 2002.
- 66.- Beatriz Polo García.
Advisor: Dr. Antonio Durán Guardado.
“Un estudio, con aplicaciones, de las fórmulas de cuadratura matriciales”. Departamento de Análisis Matemático. Universidad de Sevilla. July 2002.

- 67.- Hermann Raúl Vargas Torres.
Advisor: Dr. Julián Barquín Gil and Dr. Luis Rouco Rodríguez.
“Mejora de los algoritmos del Análisis Modal Selectivo para el Estudio de la Estabilidad de Pequeña Perturbación de Grandes Sistemas de Energía Eléctrica”. Departamento de Electrotecnia y Sistemas. Universidad Pontificia Comillas. Madrid. July 2002.
- 68.- Elena Martín García.
Advisor: Dr. Gerardo Valeiras Reina
“Sistemas heurísticos y Selección de indicadores”. Departamento de Matemática Aplicada I. Universidad de Sevilla. April 2003.
- 69.- Enrique Daneri Vivas
Advisor: Dr. Antonio Durán Guardado
“Estudio Asintótico de Polinomios Matriciales Ortogonales”. Departamento de Análisis Matemático. Universidad de Sevilla. May 2003.
- 70.- Jose Manuel García Amor.
Advisors: Dra Alicia Cachafeiro Lopez and Dr. Elias Berriochoa Esnaola
“Ortogonalidad Bernstein-Chebyshev en la recta real”. Departamento de Matemática Aplicada. Universidad de Vigo. December 2003.
- 71.- Venancio Tomeo Perucha.
Advisor: Dr. Emilio Torrano Jiménez
“Subnormalidad de la matriz de Hessenberg asociada a los polinomios ortogonales en el caso hermitiano”. Departamento de Matemática Aplicada. Facultad de Informática. Universidad Politécnica. Madrid. February 2004.
- 72.- Ulises Hidalgo Prieto.
Advisor: Dr. Guillermo López Lagomasino.
“Aproximantes Hermite-Padé y aplicaciones”. Departamento de Matemáticas. Universidad Carlos III de Madrid. July 2004.
- 73.- Anu Saxena
Advisor : Dr. Ajit Iqbal Singh
“Spectral Analysis of Dilation Operators induced by Orthogonal Polynomial Systems. Department of Mathematics, University of Delhi. July 2004.
- 74.- Jesús Gutiérrez Gutiérrez
Advisor: Dr. Pedro Crespo
“Convergencia de las potencias de las matrices Toeplitz por bloques y sus aplicaciones a la Ingeniería de Telecomunicación”. Escuela Superior de Ingenieros. Universidad de Navarra. September 2004.
- 75.- Judit Minguez Ceniceros
Advisor: Dr. Manuel Bello.
“Polinomios extremales y aproximantes de Fourier-Padé”. Departamento de Matemáticas y Computación. Universidad de la Rioja. October 2004.
- 76.- Eva Touris Lojo
Advisor: Dr. Jose Manuel Rodríguez Garcia.
“Espacios hiperbólicos en sentido Gromov”. Departamento de Matemáticas. Universidad Carlos III de Madrid. October 2004.
- 77.- Francisco Javier Pérez Lázaro
Advisor: Dr. Viktor Kolyada
“Teoremas de Inmersión”. Departamento de Matemáticas y Computación. Universidad de la Rioja. November 2004.

- 78.- Joaquin Sánchez Lara
Advisor: Dr. Andrei Martínez Finkelshtein
“Entropías de polinomios ortogonales”. Departamento de Estadística y Matemática Aplicada. Universidad de Almería. July 2005.
- 79.- Ester Pérez Sinusia.
Advisor: Dr. José Luis López
“Asymptotic approximations for singularly perturbed convection-diffusion problems with discontinuous boundary data”. Departamento de Matemática Aplicada y Computación. Universidad Pública de Navarra. September 2005.
- 80.- Gerardo Pérez Villalón.
Advisor: Dr. Antonio García García.
“Teoría de muestreo en espacios invariantes por translación”. Departamento de Matemáticas. Universidad Carlos III de Madrid. December 2005.
- 81.- Belgacem Bouras
Advisor: Dr. Jilani Alaya
“Decomposition Quadratique d’une suite de polynômes semiclassique symmetrique et quelques nouveaux exemples”. Faculté des Sciences de Sfax. Université du Sud de Sfax. January 2006.
- 82.- Silvia Marcaida Bengoechea
Advisor: Dr. Ion Zaballa
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- 3.-"Inversión de matrices Toeplitz. Algoritmos numéricos". In Seminario de Análisis Numérico. F. Michavila, L. Gavete Editors. Departamento de Matemática Aplicada y Métodos Informáticos. ETSIM. Universidad Politécnica. Madrid 1992. 41-59.
- 4.-"A generalization of a theorem of S. Bochner" (with M. Alfaro, A. Branquinho and J. C. Petronilho). Publicaciones Seminario Matemático García de Galdeano. Universidad de Zaragoza. Sección I, Vol 11. 1992.

- 5.-“Problemas abiertos en series de Fourier relativas a un producto interior discreto Jacobi-Sobolev” (with B. P. Osilenker and I. A. Rocha). Margarita Mathematica en honor de Jose Javier Guadalupe Hernández. L. Español, J. L. Varona, Editors. Servicio de Publicaciones. Universidad de la Rioja. 2001. 183-189. MR# 2003a: 42032.
- 6.-“k-coherence of measures with non-classical weights” (with A. Martínez and J. J. Moreno-Balcazar). Margarita Mathematica en honor de Jose Javier Guadalupe Hernández. L. Español, J. L. Varona, Editors. Servicio de Publicaciones. Universidad de la Rioja. 2001. 77-83. MR# 2003b: 42042.
- 7.- “Recent trends in orthogonal polynomials and their applications” (with J. Arvesú). Proceedings XVII Congreso de Ecuaciones Diferenciales y Aplicaciones L. Ferragut, A. Santos Editores. Universidad de Salamanca. 2001. 127-155. MR# 2002i: 42031.
- 8.-“Sobolev inner product”. Encyclopaedia of Mathematics. Supplement III. M. Hazewinkel Managing Editor. Kluwer. 2002. 373-374.
- 9.- “Orthogonal polynomials and rational spectral transformations “ (with L. Garza). In Mathematical Physics and Field Theory. Julio Abad, in Memoriam. M. Asorey et al Editors. Prensas Universitarias. Zaragoza. 2009. 239-248.
- 10.- “On Laguerre-type orthogonal polynomials” (with E. Huertas). Volumen en honor de A. Martínón con ocasión de su 60 cumpleaños. Universidad de La Laguna. 2010. 267-283.

COLLOQUIA DELIVERED AND PAPERS PRESENTED AT PROFESSIONAL MEETINGS

- 1.-“Equivalencia entre las fórmulas fundamentales en la teoría de polinomios ortogonales sobre cassinianas”. IV Reunión de la Agrupación de Matemáticos de Expresión Latina. Contributed Talk. Palma de Mallorca, Spain. September 1977.
- 2.-“A note on the recurrence relations for orthogonal polynomials on lemniscates”. International Congress of Mathematicians. Contributed Talk. Helsinki, Finland. August 1978.
- 3.-“Recurrence relations for orthogonal polynomials on algebraic curves”. Summer Meeting American Mathematical Society. Invited Lecture. The University of Michigan, Ann Arbor, USA. August 1980.
- 4.-“Interpolatory properties of orthogonal polynomials on lemniscates” (with G. Sansigre). International Congress of Mathematicians. Contributed Talk. Warsaw, Poland. August 1983.
- 5.-“The analogous of Christoffel formulas for lemniscates ”(with J. Ortiz) International Congress on Orthogonal Polynomials and their Applications. Contributed Talk. Laredo, Spain. September 1987.
- 6.-“Ortogonalidad de núcleos sobre la circunferencia unidad” (with E. Godoy). XII Jornadas Matemáticas Hispano-Lusas. Contributed Talk. Valladolid, Spain. September 1988.
- 7.-“Sobre cuasi-ortogonalidad en la circunferencia unidad: Aplicaciones“ (with C. Tasis). XII Jornadas Matemáticas Hispano-Lusas. Contributed Talk. Valladolid, Spain. September 1988.
- 8.-“Una generalización del algoritmo de Lanczos” (with G. Sansigre). XII Jornadas Matemáticas Hispano-Lusas. Contributed Talk. Valladolid, Spain. September 1988.

- 9.-“Polinomios ortogonales matriciales: Cuestiones abiertas”. V Symposium sobre Polinomios Ortogonales y Aplicaciones. Invited Lecture. Vigo, Spain. September 1988.
- 10.-“Toeplitz matrices and Applications”. Encuentro de Análisis Matricial y Aplicaciones. Invited Lecture. Universidad Politecnica de Valencia, Spain. October 1989.
- 11.-“On some class of orthogonal polynomials in a Sobolev space” (with A. Ronveaux). First USA-USSR Conference on Approximation Theory. Contributed talk. University of South Florida, Tampa, USA. March 1990.
- 12.-“Recent trends in the theory of orthogonal polynomials on the unit circle”. Third International Symposium on Orthogonal Polynomials and their Applications. Invited Lecture. Erice, Italy. June 1990.
- 13.- “Polinomios ortogonales y operadores de Sturm-Liouville”. Taller Internacional de Análisis Matemático. Universidad de La Habana. Cuba. Invited Lecture. Havana, Cuba. January 1991.
- 14.-“New directions of Orthogonal polynomials in Sobolev spaces”. VII Symposium on Orthogonal Polynomials and their Applications. Invited Lecture. Granada, Spain. September 1991.
- 15.- “Orthogonal polynomials on Sobolev spaces: The continuous and discrete cases”. Seminar on Special Functions. TU Delft. Invited Lecture. Delft, The Netherlands. February 1992.
- 16.-“Orthogonal polynomials on algebraic curves via a polynomial mapping”. Seminar on Special Functions. Katholieke Universiteit Leuven. Invited Lecture. Leuven, Belgium. April 1992.
- 17.-“Relative asymptotics for orthogonal polynomials with respect to a discrete Sobolev inner product”(with G. Lopez). Workshop on Orthogonal Polynomials and Sobolev spaces. Invited Lecture. Universidad Carlos III de Madrid. Leganés, Spain. June 1992.
- 18.-“Sobolev orthogonal polynomials with respect to semiclassical measures”. International Joint Symposium on Special Functions and Artificial Intelligence”. Invited Lecture. Università di Torino, Italy. October 1993.
- 19.-“Linear Operators and Orthogonal Polynomials”. Semester on Linear Operators. Stefan Banach Mathematical Center. Invited Lecture. Warsaw, Poland. March 1994.
- 20.- “Polynomials Orthogonal with respect to a Sobolev Inner Product on the Unit Circle”. Seminar on Complex Analysis: Methods of Potential Theory and Their Applications to Approximation Theory. Invited Lecture. Russian Academy of Sciences. Euler International Mathematical Institute. Saint Petersburg. September 1994.
- 21.-“Difference-Differential operators and Orthogonal Polynomials in Sobolev Spaces”. International Congress in the honnour of T. J. Stieltjes Jr. Invited Lecture. TU Delft. November 1994.
- 22.-“Finite Linear combinations of orthogonal Polynomials on the Unit Circle: Orthogonality and Asymptotics”. International Research Workshop on Density Functionals and Complex Analysis. Invited Lecture. Universidad de Granada. February 1995.
- 23.-“Caratheodory Functions and Orthogonal Polynomials on T”. Workshop on Methods of Complex Analysis in Approximation Theory. Invited Lecture. Universidad de Almería. June 1995.
- 24.- “Approximation and Interpolation on Sobolev Spaces”. XII School of Computational Mathematics. Invited Lecture. Vico Equense, Italy. September 1995

- 25.-“Computational Aspects of Orthogonal Polynomials on Sobolev Spaces”. International Congress on Computational and Applied Mathematics. Invited Lecture. Leuven, Bélgica. July 1996.
- 26.-“Coherent pairs of orthogonal polynomials”. IV Summer School in Differential Equations and Related Areas. Invited Lecture. Bogotá, Colombia. August 1996.
- 27.-“Perturbations of Laguerre-Hahn Functionals”. Continued Fractions and Geometric Function Theory. Invited Lecture. Trondheim, Norway. June 1997.
- 28.-“Distribution of Zeros of Jacobi-Sobolev type Orthogonal Polynomials”. International Workshop on Approximation Theory and Numerical Analysis. Invited Lecture. Vico Equense, Italy. September 1997.
- 29.- “Orthogonal Polynomials and Polynomial Mappings on the Unit Circle”. International Workshop on Density Functionals and Complex Analysis. Invited Lecture. Almeria, Spain. February 1998.
- 30.- “Orthogonal Polynomials and Operator Theory”. Workshop on Applications and Generalizations of Complex Analysis. Invited Lecture. Coimbra-Aveiro, Portugal. March 1998.
- 31.-”Orthogonal Polynomials and Polynomial Mappings”. Workshop on Self Similar Systems. Invited Lecture. Dubna, Russia. August 1998.
- 32.-”Semiclassical Orthogonal Polynomials and Electrostatic Interpretation of their Zeros”. INTAS Workshop on Constructive Complex Analysis. Invited Lecture Leuven, Belgium. February 1999.
- 33.- “A semiclassical extension of Jacobi-Koornwinder Polynomials”. International workshop on Special Functions. Asymptotics, Harmonic Analysis and Mathematical Physics. Invited lecture. Hong Kong, China. June 1999.
- 34.- “ New trends in the analytic Theory of Orthogonal Polynomials”. RSME2000. Minisymposium on Orthogonal Polynomials and their Applications. Invited Lecture. Madrid, Spain. January 2000.
- 35.- “Matrix orthogonal polynomials on the unit circle”. Third Workshop on Orthogonal Polynomials: Approximation and Harmonic Analysis. Invited Lecture. Inzell, Germany. April 2000.
- 36.-”Orthogonal polynomials, Toda Lattices and Nonlinear Problems”. The Third World Congress of Nonlinear Analysts WCNA-2000. Invited Lecture. Catania, Italy. July 2000.
- 37.- “Polinomios Ortogonales: Un ejemplo de la interacción del Análisis Clásico con las aplicaciones de las Matemáticas”. Congreso de la Sociedad Colombiana de Matemáticas. Invited Lecture. Santa Fe de Bogotá, Colombia. August 2000.
- 38.-” Teoria Algebraica de Polinomios Ortogonales”. Reuniao Iberica sobre Polinomios Ortogonais. Invited Lecture. Coimbra, Portugal. December 2000.
- 39.- “Orthogonal Functions in Systems and Control”. Sixth International Conference on Approximation and Optimization in the Caribbean. Invited Tutorial. Guatemala City, Guatemala. March 2001.
- 40.- “Recent trends in orthogonal polynomials and their applications”. CEDYA -Congress on Applied Mathematics. Invited Lecture. Salamanca, Spain. September 2001.
- 41.- “Fourier-Sobolev Series and their applications in Galerkin spectral methods”. RSME2002. Minisymposium on Approximation Theory and their Applications. Invited Lecture. Puerto de la Cruz, Spain. January 2002.

- 42.- "Asymptotics of Sobolev-Freud orthogonal Polynomials". INTAS Meeting on "Rational Approximation and their Applications". Invited Lecture. Coimbra, Portugal. February 2002.
- 43.- "Orthogonal Functions in Systems and Control". Summer School on Methods of Approximation Theory in System Theory. Invited Seminar. Laredo, Spain. September 2002.
- 44.- "Darboux transform and orthogonal polynomials". ETNA Tenth Anniversary Meeting. Invited Lecture. Kent State University. May 2003.
- 45.- "Recent trends in Sobolev Orthogonal Polynomials". Special Session on Constructive Approximation. Joint Meeting AMS-RSME. Invited Lecture. Sevilla, Spain. June 2003.
- 46.- "Orthogonal Polynomials and Sobolev inner products". Summer School on Orthogonal Polynomials and Special Functions. Invited Lecture. Coimbra, Portugal. July 2003.
- 47.- "Darboux Transform, Hessenberg matrices and orthogonal polynomials. Applications to spectral transformations". BIRSS Workshop: Orthogonal Polynomials. Interdisciplinary Aspects. Invited Lecture. Banff, Canada. March 2004.
- 48.- "Orthogonal Polynomials on the unit circle: A scalar boundary value problem approach with some applications". International Workshop on Analysis and their Applications. Invited Lecture. Coimbra, Portugal. June 2004.
- 49.- "A scalar Riemann boundary value problem approach to orthogonal polynomials on the circle". International Meeting on Approximation Theory. Invited Lecture. Ubeda, Spain. June 2004.
- 50.- "Asymptotics for Sobolev orthogonal polynomials: Bounded and unbounded supports". 5th International Conference on Functional Analysis and Approximation Theory. Invited Lecture. Acquafreda di Maratea, Italy. June 2004.
- 51.- "Spectral transforms, matrix factorizations, and symmetrization problems for orthogonal polynomials". Symmetries and Integrability of Difference Equations. Invited Lecture. Juensu, Finland. June 2004.
- 52.- "Darboux transforms, orthogonal polynomials, and semi-classical linear functionals". International Workshop on Polynomial Orthogonality and Applications. Invited Lecture Annaba, Algeria. December 2004.
- 53.- "State-space generators and orthogonal polynomials". Minisimposium Funciones Especiales, Polinomios Ortogonales. Aplicaciones. Joint meeting of Spanish Mathematical Societies MAT.ES2005. Invited Lecture. Valencia, Spain. February 2005.
- 54.- "Logarithmic Asymptotic of Contracted Sobolev orthogonal polynomials on the real line". Special Session on Approximation Theory. Conference on Foundations of Computational Mathematics. Invited Lecture. Santander, Spain. July 2005.
- 55.- "Coherent pairs on Jordan arcs and curves". Special Session on Special Functions and Orthogonal Polynomials. Conference on Foundations of Computational Mathematics. Invited Lecture. Santander, Spain. July 2005.
- 56.- "Electrostatic properties of zeros of orthogonal polynomials. Recent advances". Special Functions Asymptotic Analysis and Computation. A conference in honor of Nico's Temme 65 birthday. Invited Lecture. Santander, Spain. July 2005.
- 57.- "Asymptotics and zeros of Sobolev orthogonal polynomials on unbounded supports". International Symposium on Orthogonal Polynomials and Special Functions. Invited Lecture. Munich, Germany. July 2005.
- 58.- "Orthogonal Polynomials and high order difference equations". Progress on Difference Equations". Invited Lecture. Bexbach, Germany. March 2006.

- 59.- “High Order Linear Difference Equations and nonstandard orthogonal polynomials”. INTAS Meeting. Invited Lecture. Ambleteuse, France. May 2006.
- 60.- “Non-standard orthogonal polynomials. Applications in Numerical Linear Algebra and Approximation Theory”. Meeting on Approximation et Méthodes Iteratives. Invited Lecture. Lille, France. June 2006.
- 61.- “Hessenberg matrices and nonstandard orthogonal polynomials”. International Conference of Numerical Analysis and Applied Mathematics 2006. Invited Lecture. Hersonnisis, Greece. September 2006.
- 62.- “Linear combinations of orthogonal polynomials: Orthogonality and zeros”. IX Conference on Orthogonal Polynomials, Special Functions, and Applications. 2007. Invited Lecture. Marseille, France, July 2007.
- 63.- “Recent trends on the asymptotic properties of Orthogonal Polynomials in Sobolev Spaces”. Fourth International Conference of Applied Mathematics and Computing. Invited Lecture. Plovdiv, Bulgaria, August 2007.
- 64.- “Rational Spectral Transformations and Orthogonal Polynomials “. XX CEDYA-X CMA Special Session on Approximation Theory and Special Functions with Applications. Invited Lecture. Sevilla, Spain. September 2007.
- 65.- “Asymptotics of contracted Sobolev extremal polynomials on the real line”. Modern Approaches in Asymptotics of Polynomials. Invited Lecture. Banff, Canada. November 2007.
- 66.- “Orthogonal polynomials in Sobolev spaces”. Workshop with occasion of the 50th anniversary of Professor W. Van Assche. Invited Lecture. Leuven, Belgium. May 2008.
- 67.- “Caratheodory Functions, Perturbation of measures and spectral transformations of measures on the unit circle “. Constructive Theory of Functions. Invited Lecture. Campos do Jordao, Brazil. June 2008.
- 68.- “Integrable systems, spectral transforms, self-similar reductions, and orthogonal polynomials“. Workshop on Special Functions and Physical Models. Invited Lecture. Zaragoza, Spain. June 2008.
- 69.- “Numerical quadratures on the unit circle“. Conference with occasion of the 60th anniversary of Professor G. Milovanovic. Invited Lecture. Nis, Serbia. August 2008.
- 70.- “Recent trends in two variable orthogonal polynomials“. Jairo Charris Lectures on Algebra and Analysis. Invited Lecture. Bogota, Colombia. August 2008.
- 71.- “Orthogonal polynomials and operator theory. Some open problems and applications”. Invited Lecture. XXI Lecture Rubio de Francia Memorial. Universidad Autónoma Madrid. June 2009.
- 72.- “Spectral transformations of Jacobi and Hessenberg matrices”. Orthogonal polynomials, Hankel and Jacobi matrices. Invited Lecture. Copenhagen. August 2009.
- 73.- “Orthogonal polynomials on the unit circle: Spectral transformations and integrable systems”. 6th Conference on Functional Analysis and Approximation Theory. Invited Lecture. Acquafredda di Maratea, Italy. September 2009.
- 74.- “Orthogonal Polynomials : From theory to their applications “. European Workshop of Young Researchers. Invited lecture. Madrid, Spain. September 2010.
- 75.- “Orthogonal polynomials in Sobolev spaces. Analytic and spectral properties”. New Perspectives in Univariate and Multivariate Orthogonal Polynomials. Invited Lecture. Banff, Canada. October 2010.

- 76.- “Monotonicity of zeros of Laguerre-Sobolev type Orthogonal Polynomials“. International Conference on Asymptotics and Special Functions. Invited Lecture. Hong Kong. May 2011.
- 77.- ”Orthogonal polynomials and Sobolev inner products. Asymptotics, zeros and spectral properties”. Jaén Conference on Approximation theory. Invited Lecture. Ubeda, Spain. June 2011.
- 78.- ”Quadratic decomposition of orthogonal polynomials, Stieltjes functions and semiclassical linear functionals”. Special session on Orthogonal Polynomials and Special Functions. Foundations of Computational Mathematics. Invited Lecture. Budapest, Hungary. July 2011.
- 79.- “CMV, GGT, and factorization of matrices. Some applications in signal theory“. Special session on Structured Matrices: Applications, Theory and Algorithms. International Congress Industrial and Applied Mathematics. Invited Lecture. Vancouver. July 2011
- 80.- ”Generators of the group of rational spectral transformations for non-trivial C-functions”. Complex Analysis, Operator Theory and Approximation. Invited Lecture. Linz, Austria. July 2011
- 81.- “N coherent pairs of measures“. Special session on Orthogonal Polynomials and Quadrature, International Conference on Scientific Computing. Invited Lecture. Santa Margherita di Pula, Italy. October 2011.
- 82.- "Asymptotic properties of exceptional orthogonal polynomials". International Conference on Approximation Theory and Applications. Invited Lecture. Hong Kong, China. May 2013.

LECTURES AND READING COURSES

- 1.- “Problèmes d’approximation pour les polynômes orthogonaux sur les espaces de Sobolev”. Département de Mathématique. Facultés Universitaires Notre Dame de la Paix. Namur, Belgium. April 1987.
- 2.- “Polynômes orthogonaux matriciels sur des courbes de Jordan”. Institut de Mathématique Pure et Appliquée. Université Catholique de Louvain. Louvain la Neuve, Belgium. April 1987.
- 3.- “Polynômes orthogonaux matriciels: Applications”. Laboratoire d’Analyse Numérique et Optimisation. Université des Sciences et Techniques. Lille., France. January 1988.
- 4.- “Moment problems and Padé Approximation”. Instytut Matematyki. Uniwersytet Jagiellonski. Krakow, Poland. September 1988.
- 5.- “Semiclassical orthogonal polynomials”. Department of Mathematics. Arizona State University. Tempe, USA. March 1990.
- 6.- “Orthogonal polynomials and differential equations: Structural properties”. Department of Mathematics. Utah State University. Logan. USA. April 1990.
- 7.- “Orthogonal polynomials on the unit circle: Differential properties”. Department of Mathematics. Ohio State University. Columbus, USA. April 1990.
- 8.- “Polinomios ortogonales en espacios de Sobolev”. Departamento de Matemática Aplicada. Universidad de Granada, Spain. April 1990.
- 9.- “Polinomios ortogonales y funcionales de momentos”. Departamento de Análisis Matemático. Universidad de Sevilla, Spain. May 1990.

- 10.- "Inversión de matrices Toeplitz: Algoritmos numéricos". Departamento de Matemática Aplicada y Métodos Informáticos. ETS de Ingenieros de Minas. Universidad Politécnica. Madrid, Spain. May 1990
- 11.- "Polinomios ortogonales y autovalores de operadores diferenciales de segundo y cuarto orden". Departamento de Matematica. Universidade de Coimbra, Portugal. June 1990.
- 12.- "Problemas abiertos en la teoría de polinomios ortogonales sobre la circunferencia unidad". Departamento de Matemáticas. Universidad Autónoma. Madrid, Spain. December 1990.
- 13.- "Orthogonal polynomials on the unit circle: Algebraic and differential properties. Applications". Norwegian Institute of Technology. Division of Mathematical Sciences. Trondheim, Norway. September 1991.
- 14.- "Orthogonal polynomials and non-standard inner products: The Sobolev case study". Mathematisches Institut A. Universitat Stuttgart, Germany. February 1992.
- 15.- "Orthogonal polynomials and Sobolev spaces". Instytut Matematyki. Uniwersytet Jagiellonski. Krakow, Poland. September 1992.
- 16.- "Polinomios Ortogonales y espacios de Sobolev". Departamento de Física Moderna. Universidad de Granada, Spain. February 1993.
- 17.- "Polinomios ortogonales y Aplicaciones". Departamento de Matemática Aplicada. ETS de Ingenieros Agrónomos Universidad Politécnica. Madrid, Spain. November 1993.
- 18.- "Polinomios Ortogonales en Espacios de Sobolev". Escuela de Física y Matemáticas. Universidad Michoacana San Nicolás de Hidalgo. Morelia. México. August 1994.
- 19.- "Polinomios Ortogonales y Espacios de Sobolev: Problemas abiertos". Aula de Matemática Aplicada. Institución Libre de Enseñanza. Madrid, Spain. January 1995.
- 20.- "Polinomios ortogonales y aproximación en espacios de Sobolev". Departamento de Matemática Aplicada. Facultad de Informática. Universidad Politécnica de Valencia, Spain. February 1995.
- 21.- "Polinomios Ortogonales en el círculo unidad: Perturbaciones en los parámetros de reflexión". Departamento de Matemáticas. Universidad de Zaragoza, Spain. May 1995.
- 22.- "Polinomios ortogonales, relaciones de recurrencia y problemas inversos". Departamento de Matemáticas. Universidad de Alcalá de Henares. Spain. May 1995.
- 23.- "Propiedades asintóticas de polinomios ortogonales de Sobolev respecto a pares coherentes de medidas". Departamento de Matemáticas. Universidad de Zaragoza, Spain. June 1996.
- 24.- "Redes de Toda, Problemas no lineales y Polinomios Ortogonales". Departamento de Matemáticas. Universidad de Zaragoza. February 1998.
- 25.- "Matrices Estructuradas y problemas de estabilidad en sistemas lineales discretos". Universidad Rey Juan Carlos. April 1998.
- 26.- "Predicción Lineal y Polinomios Ortogonales en la Circunferencia Unidad". Universidad de Valladolid. May 1998.
- 27.- "Interpretación electrostática de ceros de polinomios ortogonales semiclásicos". Departamento de Matemáticas. Universidad de Zaragoza. February 1999.
- 28.- "Recent Trends on Orthogonal Polynomials in Sobolev Spaces". Department of Mathematics. Ohio State University. November 1999.
- 29.- "Ortogonalidad de combinaciones lineales de Polinomios ortogonales". Departamento de Matematicas. Universidad de Zaragoza. February 2000.
- 30.- "Polinomios ortogonales matriciales: Ceros y fórmulas de cuadratura". Departamento de Matematicas. Universidad de Zaragoza. February 2001.

- 31.- “Espacios de Sobolev con pesos: Polinomios ortogonales y generalizaciones de medidas coherentes”. Departamento de Matemáticas. Universidad de Zaragoza. April 2002.
- 32.- “Polinomios ortogonales de Legendre-Sobolev: Propiedades analíticas y aplicaciones en teoría de aproximación”. Departamento de Análisis Matemático. Universidad de Sevilla. May 2002.
- 33.- “Matrices de Jacobi, Transformación de Darboux y polinomios ortogonales”. Departamento de Matemáticas. Universidad de Zaragoza. March 2003.
- 34.- “The Darboux Transform and Perturbation theory of linear functionals”. Instituto Carlos I de Física Computacional. Universidad de Granada. April 2003.
- 35.- “Analytic properties of orthogonal polynomials with respect to a Sobolev inner product”. Department of Mathematics. Ohio State University. October 2003.
- 36.- “Orthogonal polynomials in Sobolev spaces: Old and new results”. School of Mathematics. Georgia Institute of Technology. October 2003.
- 37.- “Orthogonality in Sobolev spaces: An analytic and computational point of view”. Department of Mathematics and Computer Science. Kent State University. November 2003.
- 38.- “Spectral Transforms and Hermitian Toeplitz matrices”. Departamento de Matemáticas. Universidad de Zaragoza. April 2005.
- 39.- “Analytic properties of Sobolev orthogonal polynomials with unbounded supports”. Universidad de Zaragoza. September 2005.
- 40.- “Factorization of Hessenberg matrices, spectral transforms, and orthogonal polynomials”. School of Mathematics. Georgia Institute of Technology. October 2005.
- 41.- “Spectral transformations, orthogonal polynomials, and Hermitian Toeplitz matrices”. Department of Mathematics. Ohio State University. October 2005.
- 42.- “Polinomios ortogonales en la recta real. Interpretación electrostática de sus ceros”. Facultad de Ciencias Fisico-Matemáticas. Universidad Michoacana San Nicolas Hidalgo. Morelia., December 2005.
- 43.- “Analytic properties of orthogonal polynomials in Sobolev spaces”. Instituto de Física y Matemáticas de la UNAM. Morelia. December 2005.
- 44.- “Combinaciones lineales de polinomios ortogonales: Ortogonalidad y distribución de ceros”. Departamento de Matemáticas. Universidad Nacional de Colombia. Bogotá. October 2006.
- 45.- “Transformaciones espectrales y Polinomios ortogonales en la circunferencia unidad”. Departamento de Matemáticas. Universidad de los Andes. Bogotá. March 2009.
- 46.- “Laguerre-Sobolev type orthogonal polynomials. Algebraic and analytic properties”. School of Mathematics. Georgia Institute of Technology. Atlanta. April 2009.
- 47.- “Transformaciones espectrales, funciones de Carthéodory y polinomios ortogonales en la circunferencia unidad”. Departamento de Matemáticas. Universidad de Zaragoza. May 2009.
- 48.- “Orthogonal polynomials on the unit circle: Spectral transformations and integrable systems”. School of Mathematics. Georgia Institute of Technology. Atlanta. February 2010.
- 49.- “Sistemas integrables, Transformaciones espectrales y polinomios ortogonales en la circunferencia unidad”. Departamento de Matemáticas. Universidad de Zaragoza. January 2011.

GRANTS

- 1.- Grant Plan Formación del Personal Investigador. Ministerio de Educación y Ciencia. Departamento de Teoría de Funciones. Facultad de Ciencias. Universidad de Zaragoza. October 1972- September 1976.
- 2.- Travel Grant. USA. INAPE. Ministerio Educación y Ciencia of Spain. September 1980.
- 3.-Travel Grant. France. Subdirección General de Cooperación Internacional. Ministerio de Educación y Ciencia of Spain. October 1984.
- 4.-Travel Grant. Cuba. Ministerio de Educación y Ciencia of Spain. November 1986.
- 5.-Travel Grant. Belgium. Universidad Politécnica Madrid. May 1987.
- 6.- Grant of the Plan de Movilidad del Personal Investigador. Ministerio de Educación y Ciencia of Spain. Laboratoire d'Analyse Numérique. Université Pierre et Marie Curie. Paris. October 1987- February 1988.
- 7.-Travel Grant. USA. Universidad Politécnica. Madrid. March 1990.
- 8.-Travel Grant. Italy. Ministerio de Educación y Ciencia of Spain. July 1990.
- 9.-Travel Grant. Cuba. Universidad Politécnica Madrid. January 1991.

RESEARCH PROJECT GRANTS

- 1.-“Sistemas de muchos cuerpos en Física Cuántica”
Universidad Politécnica de Madrid. Spain.
Project A89-2005/15
Coordinator: Francisco Marcellán.
January 1, 1989-December 31, 1989.
- 2.-“Orthogonal Polynomials: Theory and Applications”
NATO Scientific Affairs Division
Project RG0564/88
Coordinators: A. Ronveaux, F. Marcellán, J. S. Dehesa.
January 1, 1989-December 31, 1990.
- 3.-“Teoría constructiva de polinomios ortogonales semiclásicos: Aplicaciones a la ortogonalidad relativa a matrices Toeplitz”
Ministerio de Educación y Ciencia of Spain.
Acción integrada Hispano-Francesa 01/182, 01/31.
Coordinators: F. Marcellán, P. Maroni(Laboratoire d'Analyse Numérique. Université Pierre et Marie Curie. Paris)
January 1, 1989- December 31, 1990.
- 4.-“Polinomios ortogonales, Series de Fourier y Problemas de autovalores para operadores diferenciales: Aplicaciones”
DGICYT. Ministerio de Educación y Ciencia of Spain.
Proyecto Investigación Coordinado PB89-0181-C02-01
Coordinator: Francisco Marcellán.
November 11, 1990-November 10, 1993

- 5.-“Polinomios ortogonales, método de Lanczos y física de muchos cuerpos”
Ministerio de Educación y Ciencia of Spain.
Acción Integrada Hispano-Portuguesa 01/28, 01/2
Coordinators: Francisco Marcellán, Jaime Carvalho e Silva (Departamento de Matematica, Universidade de Coimbra)
January 1, 1991-December 31, 1992.
- 6.-“Polynomes orthogonaux de type Sobolev: Théorie spectrale et Computer Algebra. Applications”
Spanish-Belgian Cultural Agreement.
Coordinators: F. Marcellán, A. Ronveaux (Laboratoire de Physique Mathématique, FUNDP Namur)
January 1, 1992-December 31, 1992.
- 7.- “Polinomios ortogonales en el círculo unidad: Aplicaciones”
Ministerio de Educación y Ciencia of Spain.
Acción Integrada Hispano-Austríaca 94/012, 95/04, 96/3
Scientific Coordinators: Francisco Marcellán, Franz Peherstorfer (Institut für Mathematik, Johannes Kepler Universität, Linz. Austria)
January 1, 1994-December 31, 1996.
- 8.-“ Constructive Complex Analysis and density functionals” INTAS Project 93-219.
Jesús S. Dehesa (Univ. Granada), F. Marcellán (Univ. Carlos III de Madrid), W. Van Assche (Katholieke Universiteit Leuven), A. A. Gonchar (Steklov Institute), A. I. Aptekarev (Keldysh Institute), V. S. Buyarov (Moscow State University).
July 1, 1995-June 31, 1996, April 1, 1997-March 31, 1999.
- 9.-“Polinomios ortogonales, Series de Fourier, Espacios de Sobolev y Operadores: Aplicaciones”
DGICYT. Ministerio de Educación y Ciencia of Spain.
Proyecto de Investigación Coordinado PB93-0228-C02-01.
Coordinator: Francisco Marcellán Español
June 27, 1994- June 27, 1997.
- 10.- “Síntesis para FPGAS con Métodos Topológicos”
Dirección General de Investigación. Comunidad de Madrid.
Proyecto de Investigación
Coordinator: Luis Entrena Arrontes
January 1, 1997- December 31, 1998
- 11.-“Teoría de Operadores y Polinomios ortogonales: Aplicaciones”
DGES. Ministerio de Educación y Cultura of Spain.
Proyecto de Investigación Coordinado PB96-0120-C03-01.
Coordinator: Francisco Marcellán Español
December 12, 1997- December 12, 2000.
- 12.-”Polinomios ortogonales y teoría de operadores”
Ministerio de Asuntos Exteriores of Spain
Convenio Bilateral Hispano-Polaco.
Coordinators: Francisco Marcellán Español, Franciszek H. Szafraniec (Jagiellonski Uniwersyteit Krakow)
January 1, 1998-December 31, 1998.

13.- “Ortogonalidad y Aproximación. Teoría General y Aplicaciones”

DGI. Ministerio de Ciencia y Tecnología of Spain.

Proyecto de Investigación Coordinado BFM2000-0206-C04-01.

Coordinator: Francisco Marcellán Español

December 19, 2000- December 19, 2003.

14.- “Rational approximation of analytic functions and its application to the spectral theory of difference operators, nonlinear dynamical systems, special functions, and number theory”

INTAS Project 2000-272.

A. Martínez Finkelshtein (Univ. Almería), F. Marcellán (Univ. Carlos III de Madrid), W. Van Assche (Katholieke Universiteit Leuven), A. A. Gonchar (Steklov Institute, Moscow), H. Stahl (T. U. Berlin), A. I. Aptekarev (Keldysh Institute, Moscow), V. N. Sorokin (Moscow State University), A. Branquinho (U. Coimbra), B. Beckermann (U. Lille 1), V. A. Kalyaguin (U. Nizhny Novgorod State Technical University), L. B. Golinskii (Institute of Low Temperature Physics and Engineering, Kharkov) .

July 1, 2001- July 1, 2003.

15.- “Orthogonal Polynomials: Theory, Applications, and Generalizations”

NATO Collaborative Grant PST. CLG. 979738.

Coordinators: J. S. Geronimo (Georgia Institute of Technology, Atlanta, USA) and A. I. Aptekarev (Keldysh Institute of Applied Mathematics, Russian Academy of Sciences, Moscow, Russia).

May 1, 2003- April 30, 2005.

16.- “Ortogonalidad, teoría de la Aproximación y Aplicaciones”

DGI. Ministerio de Ciencia y Tecnología of Spain.

Proyecto de Investigación Coordinado BFM2003-06335-C03-02.

Coordinator in University Carlos III: Francisco Marcellán Español/Guillermo López Lagomasino

November 30, 2003- November 30, 2006.

17.- “Constructive Complex Approximation”

INTAS Research Network NeCCA INTAS 03-51-6637

F. Marcellán (Univ. Carlos III de Madrid), W. Van Assche (Katholieke Universiteit Leuven), A. A. Gonchar (Steklov Institute, Moscow), H. Stahl (T. U. Berlin), A.I. Aptekarev (Keldysh Institute, Moscow), V. N. Sorokin (Moscow State University), V. Totik (U. Szeged), B. Beckermann (U. Lille 1), V. A. Kalyaguin (U. Nizhny Novgorod State Technical University), L. B. Golinskii (Institute of Low Temperature Physics and Engineering, Kharkov).

18.- “Ortogonalidad y Aproximación: Teoría y Aplicaciones Físicas y Técnicas”

DGI. Ministerio de Educación y Ciencia of Spain.

Proyecto de Investigación Coordinado MTM2006-13000-C03-02.

Coordinator in University Carlos III: Guillermo López Lagomasino.

November 30, 2006- November 30, 2009.

19.- Ortogonalidad y Aproximación. Teoría y Aplicaciones.

Universidad Carlos III de Madrid -Dirección General de Investigación, Comunidad Autónoma de Madrid

Proyecto de Investigación Grupos Consolidados:CCG06-UC3M/ESP-0690.

Coordinator in University Carlos III: Guillermo López Lagomasino.

January 1, 2007- December 31, 2007.

- 20.- “Aproximación Hermite-Padé, ortogonalidad no estándar y aplicaciones”
Universidad Carlos III de Madrid - Dirección General de Investigación, Comunidad Autónoma de Madrid
Proyecto de Investigación Grupos Consolidados: CCG07-UC3M/ESP-3339.
Coordinator in University Carlos III: Jorge Arvesú Carballo
January 1, 2008- December 31, 2008.
- 21.- “Polinomios ortogonales, Funciones Especiales y Aplicaciones”
Secretaría General de Universidades. Ministerio de Educación.
Proyecto de Cooperación Científica interuniversitaria Hispano-Brasileña. PHB 2007-0078PC.
Coordinators Dr. Eduardo Godoy Malvar (Universidad de Vigo) and Dr. Dimitar K. Dimitrov (USP)
Coordinator in Universidad Carlos III de Madrid: Francisco Marcellán.
January 1, 2008-December 31, 2011.
- 22.-“ Ortogonalidad, Teoría de Aproximación y Aplicaciones en Ciencia y Tecnología”
DGI. Ministerio de Ciencia e Innovación of Spain.
Proyecto de Investigación Coordinado MTM2009-12740-C03-01.
Coordinator: Francisco Marcellán Español
January 1, 2010- December 31, 2012.
- 23.-“Ortogonalidad y teoría de perturbaciones”
Proyecto: 000000000156668 (Conacyt - Investigador Joven). México.
Coordinator: Luis Garza Gaona.
June 2011-June 2014.
- 24.-“ Ortogonalidad, Teoría de Aproximación y Aplicaciones en Ciencia y Tecnología”
DGPI. Ministerio de Economía y Competitividad.
Proyecto de Investigación Coordinado MTM2012-36732-C03-01.
Coordinator: Francisco Marcellán Español.
February 1, 2013- January 31, 2015.
- 25.- "Polinomios ortogonais: Theoria e Aplicacoes"
Ciencia sem Fronteiras, CAPES, Ministerio de Educacao Brasil, Ministerio de Ciencia, Tecnología e Innovacao Brasil
CAPES Program/Special Visiting Researcher
Proyecto CAPES 107/2012
Coordinator: Francisco Marcellán
January 1, 2013-December 31 2015

RECEIPT OF EXTERNAL RESEARCHERS

- 1.- Dr. Walter Van Assche. Department of Mathematics. Katholieke Universiteit Leuven
November 1, 1990- December 15, 1990.
Agreement between Katholieke Universiteit Leuven and Consejo Superior de Investigaciones Científicas of Spain.
- 2.- Dr. Panayotis Siafarikas. Department of Mathematics. University of Patras. Greece.
June 1992.
Scientific Program for Mobility of Researchers. Ministerio de Educacion y Ciencia of Spain.

- 3.- Dr. Guillermo López Lagomasino. Departamento de Teoría de Funciones. Universidad de La Habana, Cuba.
Programa de Sabáticos. Ministerio de Educación y Ciencia of Spain. October 1, 1991-September 30, 1992.
- 4.- Dr. Aleksander Aptekarev. Keldysh Institute of Applied Mathematics. Russian Academy of Sciences. Moscow, Russia.
September 1992 and February 1993.
- 5.- Dr. Franciszek Szafraniec. Mathematical Institute. Jagellonian University. Krakow, Poland.
Programa de Sabáticos. Ministerio de Educación y Ciencia of Spain.
February 1, 1993-July 31, 1993.
- 6.- Dr. Aleksander I. Aptekarev. Keldysh Institute of Applied Mathematics. Russian Academy of Sciences. Moscow, Russia.
Programa de Sabáticos. Ministerio de Educación y Ciencia of Spain.
September 1, 1994-August 31, 1995.
- 7.- Dr. Lance L. Littlejohn. Department of Mathematics. The Utah State University, Logan, Utah. USA.
Programa de Sabáticos. Ministerio de Educación y Cultura of Spain. September 1, 1999-March 1, 2000.
- 8.- Dr. Franciszek Szafraniec. Mathematical Institute. Jagellonian University. Krakow, Poland.
Programa de Sabáticos. Universidad Carlos III de Madrid.
October 1, 1999-November 30, 1999.
- 9.- Dr. Lance L. Littlejohn. Department of Mathematics. The Utah State University, Logan, Utah. USA.
Programa de Sabáticos. Universidad Carlos III de Madrid.
March 1, 2000- March 30, 2000.
- 10.- Dr. Boris P. Osilenker. Department of Mathematics. Moscow State Civil Engineering University.
Programa de Sabáticos. Universidad Carlos III de Madrid.
April 15, 2001- May 30, 2001.
- 11.- Dr. Jeffrey S. Geronimo. School of Mathematics. Georgia Institute of Technology.
September 1, 2001- July 1, 2002.
- 12.- Dr. Kil H. Kwon, Division of Applied Mathematics. KAIST, Taejon, Korea.
Programa de Sabáticos. Universidad Carlos III de Madrid.
December 1, 2002- December 31, 2002.
- 13.- Dr. Aleksander I. Aptekarev. Keldysh Institute of Applied Mathematics. Russian Academy of Sciences. Moscow, Russia.
Programa de Sabáticos. Universidad Carlos III de Madrid.
May 1, 2003 -June 30, 2003.

VISITING POSITIONS

- 1.- UER Mathematiques. Université Paul Sabatier. Toulouse. France. October 1977.
- 2.- Laboratoire d'Analyse Numérique. Université Pierre et Marie Curie. Paris, France. October 1987- February 1988.

- 3.- Laboratoire de Physique Mathématique. Facultés Universitaires Notre Dame de la Paix. Namur, Belgium. February 1989.
- 4.-Department of Mathematics. The Ohio State University. Columbus, Ohio, USA. June 1989.
- 5.- Departamento de Matematica. Universidade de Coimbra. June 1990.
- 6.- Departement de Mathématiques. Faculté des Sciences et Techniques. Université de Toulon et du Var. La Garde, France. July 1991.
- 7.- Faculty of Mecanics and Mathematics. Moscow State University. April 1994.
- 8.- Laboratoire d'Analyse Numérique et Optimisation. Université des Sciences et Techniques de Lille. Villeneuve d'Ascq, France. May 1994.
- 9.- Laboratoire de Physique Theorique et des Hautes Energies. Université Denis Diderot. Paris, France. May 1995.
- 10.- School of Mathematics. Georgia Institute of Technology. Atlanta, GA. USA. August 1- December 31, 2003. January 1-May 31, 2010

ORGANISATION OF MEETINGS AND OTHER SCIENTIFIC EVENTS

- 1.-Third Spanish Simposium on Ortoogonal Polynomials and their Applications. Segovia, Spain. June 1985.
Member of the Organizing Committee.
- 2.-Second International Symposium on Orthogonal Polynomials and their Applications. Segovia, Spain. September 1986.
Member of the Organizing Committee.
- 3.-NATO Advanced Studies Institute on Orthogonal Polynomials. Columbus, Ohio, EE.UU. June 1989.
Member of the International Advisory Board.
- 4.-VII Simposium on Orthogonal Polynomials and their Applications Granada, Spain. September 1991.
Coordinator of the Special Session on Orthogonal Polynomials on Sobolev spaces.
- 5.- 1st Workshop on orthogonal polynomials and Sobolev spaces. Leganés, Spain. June 1992.
Member of the Organizing Committee.
- 6.-Advanced Seminar on Approximation Theory. Laredo, Spain. September 1992.
Director.
- 7.- Second International Conference on Approximation and Optimization. Havana, Cuba. September 1993.
Member of the Organizing Committee.
- 8.- XIII CEDYA-III Congreso de Matemática Aplicada. Madrid, Spain. September 1993.
Member of the Scientific Committee.
- 9.- 2nd Workshop on Orthogonal polynomials on the unit circle: Theory and Applications. Leganés, Spain. June 1994.
Member of the Organizing Committee

- 10.- Meeting on Matrix Analysis and its Applications.
Vitoria, Spain. September 1994.
Member of the Scientific Committee.
- 11.-International Conference to honoured Thomas Jan Stieltjes Jr.
Delft, The Netherlands. October-November 1994.
Member of the Scientific Committee and Invited Speaker.
- 12.- International Research workshop on Density Functionals and Complex Analysis.
Granada, Spain. February 1995.
Member of the Scientific Committee and Invited Speaker.
- 13.- Seminario Avanzado en Teoría de Aproximación.
Matanzas, Cuba. April 1995.
Coordinator of the Organizing Committee.
- 14.-Workshop en Métodos del Análisis Complejo en Teoría de Aproximación.
Almería, Spain. June 1995.
Member of the Scientific Committee and Invited Speaker.
- 15.- International Congress on Industrial and Applied Mathematics.
Hamburg, Germany. July 1995.
Member of the Organizing Committee miniSymposium on Orthogonal Polynomials and Spectral Methods.
- 16-Third International Conference on Approximation and Optimization.
Puebla, Mexico. October 1995.
Member of the Program Committee.
- 17.-3rd Workshop on Orthogonal Polynomials in Mathematical Physics. Leganés, Spain.
June 1996.
Member of the Organizing Committee
- 18.-Encuentro de Análisis Matricial y Aplicaciones.
Sevilla. September 1997.
Member of the Scientific Committee.
- 19.-Symposium on Orthogonal Polynomials and their Applications.
Sevilla. September 1997.
Member of the Scientific Committee.
- 20.- 4th Workshop on Orthogonal Polynomials: Numerical and Symbolic Algorithms
Leganés, Spain. June 1998.
Member of the Organizing Committee
- 21.-Seminario sobre Métodos Matemáticos en Teoría de la Señal.
Laredo, Spain. September 1998.
Director.
- 22.-International Conference on Approximation and Optimization.
Pointe à Pitre, Guadelupe, France. March 1999.
Member of the Program Committee.
- 23.-5th International Symposium on Orthogonal Polynomials, Special Functions and Their Applications.
Patras, Greece, September 1999.
Member of the Scientific Committee.
- 24.- Alhambra 2000. A joint Mathematical European-Arabic Conference.
Granada, Spain. July 2000.
Member of the Local Organizing Committee.

- 25.- Annual Meeting SIAM. Minisymposium on Special Functions and Orthogonal Polynomials. Puerto Rico. July 2000.
Minisymposium Organiser.
- 26.-SIAG Summer School on Orthogonal Polynomials and Special Functions.
Laredo, Spain. July 2000.
Director.
- 27.- Sixth International Conference on Approximation and Optimization in the Caribbean.
Guatemala City. March 2001.
Member of the Programme Committee.
- 28.-6th International Symposium on Orthogonal Polynomials, Special Functions and Their Applications.
Roma, Italy, June 2001.
Member of the Scientific Committee.
- 29.- II International Meeting on Approximation Theory.
Ubeda, Spain, September 2001.
Member of the Scientific Committee.
- 30.- Summer School on Orthogonal Polynomials, Harmonic Analysis, Approximation and Applications.
Inzell, Germany, September 2001.
Member of the Programme Committee.
- 31.- Workshop on Orthogonal Polynomials: Orthogonal Polynomials in Approximation Theory.
Leganés, Spain. June 2002.
Member of the Organizing Committee.
- 32.- Eurosummer School on Orthogonal Polynomials and Special Functions.
Leuven, Belgium. August 2002.
Member of the Programme Committee.
- 33.- Summer School on Approximation Methods in System Theory.
Laredo, Spain. September 2002.
Director.
- 34.- First Joint Meeting SIAM-CAIMS. Minisymposium on Special Functions: Computational Methods and Applications
Montreal, Canada. June 2003.
Organizer.
- 35.- Recent Trends in Numerical Linear Algebra.
Leganés, Spain. June 2003.
Member of the Organizing Committee.
- 36.- Joint Meeting AMS-RSME. Special Session on Numerical Linear Algebra.
Sevilla, Spain. June 2003.
Organizer.
- 37.- Eurosummer School on Orthogonal Polynomials and Special Functions.
Coimbra, Portugal. July 2003.
Member of the Programme Committee.
- 38.- Joint Meeting AMS-MAA. AMS-SIAM Special Session on Classical and Nonlinear Special Functions and their Applications.
Phoenix, USA. January 2004.
Organizer.

39.- Seventh International Conference on Approximation and Optimization in the Caribbean.

León, Nicaragua. March 2004.

Member of the Programme Committee.

40.- International Workshop on Orthogonal Polynomials in Mathematical Physics.

Leganés, Spain. July 2004.

Member of the Organizing Committee.

41.- Summer School on Orthogonal Polynomials and Special Functions: Computation and Applications.

Leganés, Spain. July 2004.

Director.

42.- International Workshop on Polynomial Orthogonality and Applications.

Annaba, Algeria. December 2004.

Member of the Scientific Committee.

43.- 8th International Conference on Approximation and Optimization in the Caribbean
Santo Domingo, Republica Dominicana. April 2006.

Member of the Programme Committee.

44.-International Meeting on Recent Trends in Constructive Approximation. Satellite Meeting of ICM06.

Leganés, Spain. August 2006.

Coordinator.

45.- Orthogonal Polynomials and Applications. A Conference in Honor of Manuel Alfaro's 60th Birthday.

Jaca, Spain, May 2007.

Member of the Organizing Committee

46.- 9th International Symposium on Orthogonal Polynomials, Special Functions and Their Applications.

Marseille, France, July 2007.

Member of the Scientific Committee.

47.- Special Functions and Mathematical Physics, A Conference in Honor of Jesus S. Dehesa's 60th Birthday.

Granada, Spain. September 2007.

Member of the Scientific and Organizing Committee.

48.- 8th European Advanced Studies Conferences: Fundamental and Applied Nonlinear Science.

Otocec. Slovenia. October 2007.

Member of the Directorship Board.

49.- 9th International Conference on Approximation and Optimization in the Caribbean.

San Andrés, Colombia. March 2008.

Member of the Programme Committee.

50.- Seminario Jairo Charris in Algebra and Analysis. Bogotá, Colombia. August 2008.

Member of the Scientific Committee.

51.- International Workshop on Orthogonal Polynomials in Approximation Theory.

Leganés, Spain. September 2008.

Member of the Organizing Committee.

- 52.- Encuentros de Analisis Real y Complejo (EARCO).
Chinchón, Spain. May 2009.
Member of the Organizing Committee.
- 53.- 10th International Symposium on Orthogonal Polynomials, Special Functions and Their Applications.
Leuven, Belgium, July 2009.
Member of the Scientific Committee.
- 54.- Computational Methods in Science and Engineering (CMMSE 2010)
Almeria, Spain. June 2010.
Member of the Organizing Committee of a minisymposium on “Orthogonal Polynomials and Applications”.
- 55.- First Jaen Conference on Approximation Theory.
Ubeda, Spain. July 2010.
Member of the Scientific Committee and organiser of a minisymposium on " Non standard Orthogonal Polynomials".
- 56.- Congreso 100 aniversario RSME.
Avila, Spain. February 2011.
Member of the organizing Committee of the Special Session on “Recent Trends and Applications of the Theory of Orthogonal Polynomials and Special Functions”.
- 57.- Second Jaen Conference on Approximation Theory.
Ubeda, Spain. June 2011.
Member of the Scientific Committee.
- 58.- First Joint Meeting Belgian, Royal Spain and Luxemburg Mathematical Societies.
Liege, Belgium. June 2012.
Member of the organizing Committee of the Special Session on “ Orthogonal Polynomials and Special Functions”.
- 59.- Third Jaen Conference on Approximation Theory, Computer Aided Geometric Design, Numerical Methods and Applications.
Ubeda, Spain. July 2012.
Member of the Scientific Committee.
- 60.- Computational Methods in Science and Engineering (CMMSE 2012)
Murcia, Spain. July 2012.
Member of the Organizing Committee of a minisymposium on “Orthogonal Polynomials and Applications”.
- 61.- Biennial Meeting RSME.
Santiago de Compostela, Spain. January 2013.
Member of the organizing Committee of the Special Session on "Orthogonal Polynomials, Special Functions and Applications".
- 62.- 12th International Symposium on Orthogonal Polynomials, Special Functions and Their Applications.
Sousse, Tunisia. March 2013.
Member of the Scientific Committee
- 63.- Third Iberoamerican School on Orthogonal Polynomials and Applications (EIBOPA)
Sao Jose do Rio Preto, Brazil, May 2013.
Member of the Scientific Committee

64.- 1st International Western Balkan Conference on Mathematical Sciences (IWBCMS). Elbasan, Albania. May 2013.

Member of the Scientific Committee.

65.- International Linear Algebra Society (ILAS) 2013 Meeting.

Providence, Rhode Island, USA, June 2013.

Member of the Organizing Committee of a minisymposium on "Matrices and Orthogonal Polynomials".

66.- Escuela EMALCA Colombia -2013

Barranquilla, Colombia. August 2013.

Member of the Organizing Committee.

UNIVERSITY SERVICE

Committees.

Member of Junta de Escuela. Escuela Técnica Superior de Ingenieros Industriales. Universidad de Zaragoza. October 1975- September 1981.

Member of Junta de Escuela. Escuela Técnica Superior de Ingenieros Industriales. Universidad de Santiago. October 1981 -September 1982.

Member of the Committee of Convalidación de Estudios. Universidad de Zaragoza. October 1979- September 1980.

Member of Junta de Escuela. Escuela Técnica Superior de Ingenieros Industriales. Universidad Politécnica. Madrid. October 1982- September 1985.

Member of Comisión Gestora Ampliada. Universidad Carlos III de Madrid. January 1992- September 1995.

Member of the Committee of Tercer Ciclo e Investigación. Escuela Técnica Superior de Ingenieros Industriales. Universidad Politécnica. Madrid. October 1989- September 1991.

Member of the Committee of Ordenación Académica y Profesorado. Universidad Carlos III de Madrid. January 1992- September 1995.

Member of the Committee of Quality Policy. Universidad Carlos III de Madrid. January 1994- July 2004.

Member of Claustro (Senate). Universidad Carlos III de Madrid. January 1994- July 2004.

Individual.

Subdirector. Escuela Técnica Superior de Ingenieros Industriales. Universidad de Zaragoza. February 1979- September 1979.

Secretary. Escuela Técnica Superior de Ingenieros Industriales. Universidad de Zaragoza. February 1980- September 1981.

Subdirector. Escuela Técnica Superior de Ingenieros Industriales. Universidad de Santiago. January 1982- September 1982.

Head. Departamento de Ingeniería. Universidad Carlos III de Madrid. January 1992 -April 1995.

Head. Department of Mathematics. Universidad Carlos III de Madrid. April 1995-September 1995.

Vicerrector of Research. Universidad Carlos III de Madrid. September 1995- July 2004.

Head. Department of Mathematics. Universidad Carlos III de Madrid. November 2009-at present.

PROFESSIONAL MEMBERSHIPS

American Mathematical Society, Society for Industrial and Applied Mathematics, Sociedad Española de Matematica Aplicada, Sociedad Española de Historia de las Ciencias y la Técnica, Real Sociedad Matemática Española.

REFEREE ACTIVITIES

Journals

Methods and Applications in Analysis, Indagationes Mathematicae, Constructive Approximation, Journal of Approximation Theory, Journal of Computational and Applied Mathematics, Linear Algebra and Applications, Numerical Algorithms, Portugalliae Mathematica, Collectanea Mathematica, Calcolo, Bulletin London Mathematical Society, International Journal of Mathematics and Mathematical Sciences, Annals of Numerical Mathematics, Journal of Numerical and Applied Mathematics, Transactions of American Mathematical Society, Applicable Analysis, Rendiconti Circolo Matematico Palermo, Rocky Mountain Journal of Mathematics, Differential Equations and Dinamical Systems, Advances in Computational Mathematics, Revista Matemática Complutense, East Journal on Approximations, Journal of Mathematical Analysis and Applications, Rendiconti di Matematica e delle sue Applicazioni, Signal Processing, Applied Mathematics and Computation, Numerical Functional Analysis and Optimization, Acta Applicandae Mathematicae, Periodica Mathematica Hungarica, Fractional Calculus and Applied Analysis, Applied Numerical Mathematics, Extracta Mathematicae, Journal of Applied Mathematics, Indian Journal of Pure and Applied Mathematics, Mediterranean Journal of Mathematics, Computational Methods and Function Theory, Experimental Mathematics, SIAM Journal Matrix Analysis and Applications, Signal Image and Video Processing,

Asymptotic Analysis, Computers and Mathematics with Applications, Novi Sad Journal of Mathematics, Journal of Inequalities and Applications, Physics Letters A, Journal of Computational Mathematics and Optimization, Mathematical Models and Methods in Applied Sciences, Far East Journal of Mathematical Sciences, Georgian Mathematical Journal, Canadian Mathematical Bulletin, Electronic Journal of Linear Algebra, Boletín de la Sociedad Matemática Mexicana, Journal of Functional Analysis, Approximation and Computation, Integral Transforms and Special Functions, Pacific Journal of Mathematics, Journal of Inequalities in Pure and Applied Mathematics, Behavioral and Brain Functions Methodology, Symmetry, Integrability and Geometry: Methods and Applications, Indian Journal of Mathematics/ Bulletin of the Alahabad Mathematical Society, Boundary Value Problems, BIT, Journal of Difference Equations and Applications, Journal of Integer Sequences, Discrete Mathematics, Applied Mathematics Letters, Bulletin Belgian Mathematical Society-Simon Stevin, Acta Mathematica Hungarica, Arkiv for Matematik, Computational and Applied Mathematics, Pure and Applied Mathematics Quarterly, Advances in Pure and Applied Mathematics, Duke Mathematical Journal, Advances in Difference Equations, Mathematical and Computer Modelling, Indian Journal of Pure and Applied Mathematics, Analysis, Studia Scientia Mathematica Hungarica, Control and Intelligent Systems, Journal of Mathematical Physics, Complex Variables and Elliptic Equations, Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales, Comptes Rendus Mathématique, Turkish Journal of Mathematics, Contemporary Mathematics, Journal of Symbolic Computation, Arabian Journal for Science and Engineering, Mathematische Nachrichten, Operators and Matrices, Inverse Problems, Mathematica Slovaca, Advances in Applied Mathematics, The Ramanujan Journal, Utilitas Mathematica, Journal of Physics A: Mathematical and Theoretical, Abstract and Applied Analysis, Bulletin of the Malaysian Mathematical Sciences Society, Matematicki Vesnik, Arabian Journal of Mathematics, Jordan Journal of Mathematics and Statistics, International Journal of Computer Mathematics, Axioms, Lecturas Matemáticas, Ain Shams Engineering Journal.

Publisher Houses

Springer Verlag (Lecture Notes in Mathematics), Marcel Dekker (Lecture Notes in Pure and Applied Mathematics) .

Reviewer Mathematical Reviews and Zentralblatt MATH.

OTHER ACTIVITIES

- 1.- Member of the Comissao de Acompanhamento del Centro de Matematica de la Universidade de Coimbra (Portugal). September 1997-September 2001.
- 2.- Member of Comisión de Coordinación Técnica II Plan de Calidad de las Universidades Españolas. October 2001- November 2003.
- 3.- Member External Accreditation Committee Basic Sciences. Universidad Nacional de Colombia. January 2003 at present.
- 4.- Member External Assesment Committee. Institute of Biomathematics and Biometrics GSF. Neuherberg, Germany. June 2001.

- 5.- Member External Assesment Committee. Facultad de Matemáticas. Universidad de Murcia. June 2000.
- 6.- Member External Assesment Committee. Facultad de Matemáticas. Universidad de Santiago de Compostela. June 2001.
- 7.- Coordinator Erasmus-Socrates Program. Universidad Carlos III. October 1994-present.
- 8.- Member of the Editorial Board of Electronic Transactions in Numerical Analysis. January 1998- at present.
- 9.- Member of the Editorial Board Revista Colombiana de Matematicas. January 2007- at present.
- 10.- Member Editorial Board Jaen Journal of Approximation. January 2007- at present
- 11.- Member Editorial Board Journal of Approximation Theory. October 2008- at present.
- 12.- Member Editorial Board Bulletin of Mathematical Analysis and Applications. July 2009- at present.
- 13.- Member Editorial Board of Journal of Applied Mathematics. February 2010-at present.
- 14.- Member Editorial Board of Journal of Classical Analysis. March 2011-at present.
- 15.- Member of the International Scientific Committee Revista Academia Colombiana de Ciencias Excatas, Físicas y Naturales. January 2007-at present.
- 16.- member of the Editorial Board of the journal Lecturas Matematicas. September 2012- at present.
- 17.- Program Director SIAM Activity Group in Orthogonal Polynomials and Special Functions. January 1999- December 2004.
- 18.- Chair SIAM Activity Group in Orthogonal Polynomials and Special Functions. January 2008- December 2013.
- 19.- Member Board Real Sociedad Matemática Española. October 1, 2000- September 30, 2006.
- 20.- Vicepresident Real Sociedad Matemática Española. October 26, 2012- at present.
- 21.- Member of the Scientific Committee Seminario Matemático “García de Galdeano”. Universidad de Zaragoza. Spain. January 2002- at present.
- 22.- Referee of Research Projects in Dirección General de Investigación Ministerio de Educación y Ciencia of Spain. October 1989- March 2000.
- 23.- Referee of Research Projects in Dirección General de Investigación Ministerio de Ciencia y Tecnología of Spain. March 2000 – March 2003.
- 24.- Referee of Research Projects in Dirección General de Investigación. Comunidad Autónoma de Madrid. March 1999- at present.
- 25.- Referee of Research Projects in Agencia Andaluza de Evaluación. Junta de Andalucía. March 2009 at present.
- 26.- Referee of Research Projects in Dirección Xeral de Investigación. Xunta de Galicia. September 2009 at present.
- 27.- Referee of Research Projects in Ikerbasque. Fundación Vasca para la Ciencia. March 2009 at present.
- 28.- Referee of Research Projects in ACSUCYL. November 2010 at present.
- 29.- Referee of Research Projects USA-Israel Binational Science Foundation. January 2007.
- 30.- Referee of Research Projects FONDECYT, Chile. October 2007.
- 31.- Referee of Research Projects FWO Belgium. November 2007 at present.
- 32.- Referee of Research projects FONCYT, Argentina. October 2011.
- 33.- Referee of Research projects DFG, Germany. November 2011.

- 34.- Director Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA) of Spain. June 2004-May 2006.
- 35.- Presidente Consejo Asesor Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA) of Spain. December 2008- December 2010.
- 36.- Secretary General for Scientific and Tecnology Policy. Ministerio de Educación y Ciencia of Spain. May 2006- April 2008.
- 37.- Corresponding Member. Real Academia de Ciencias Exactas, Físicas y Naturales de Zaragoza. November 2004.
- 38.- Corresponding Member. Academia Colombiana de Ciencias Exactas, Físicas y Naturales. March 2006.
- 39.- Corresponding Member. Academia de Ciencias Exactas, Físicas y Naturales de Granada. January 2010.
- 40.- Member of the Advisory Board Instituto de Matemáticas de la Universidad de Sevilla (IMUS). September 1, 2011.
- 41.- Member of the Advisory Board Instituto Universitario de Matemáticas (IUMA). Universidad de Zaragoza. September 1, 2009.
- 42.- Member of the Data Base Committee of the European Mathematical Society. October 1, 1996- March 1, 2002.

My research activity has been recognized by the Ministerio de Educación of Spain (CNEAI) with 5 (five) six-year periodical asesments (sexenios de investigación) .