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EDUCATION

- **Havana University, Cuba**
B. Sc. in Mathematics 1986
- **Moscow State University**
Ph. D. in Physical and Mathematical Sciences (Mathematics) 1991

PREVIOUS POSITIONS

- **Havana University, Cuba**
Assistant professor 1986 – 1994
- **Universidad Autónoma de Madrid, Spain**
Visiting professor 1993
- **Universidad Carlos III de Madrid, Spain**
Visiting professor 1994
- **Universidade Estadual Paulista (UNESP), Brazil**
“Special Visiting Researcher” (part time) 2014–2016
- **Shanghai Jiao Tong University, China**
“Visiting Chair Professor” (part time) 2014–2016
- **University of Almería, Spain**
Adjunct, associate, and full professor (since 2018, part time) 1994–

AWARDS AND DISTINCTIONS

- **Certificate of Merit**, International Mathematical Olympiad; Washington D.C., USA 1980
- **Founder**, Spanish Association for Implant, Refractive and Corneal Technology and Surgery 2009
- **Fellowship**, Brazilian Scientific Mobility Program “Ciências sem Fronteiras” 2014–2016
- **Fellowship**, Program of High-end Foreign Experts of the China State Foreign Expert Bureau 2014–2016
- **Invited speaker**, V International Conference on Computational Methods and Function Theory 2005
- **Invited speaker**, International Symposiums OPSFA 2011, 2017, 2024
- **Invited speaker**, Conference Foundations of Computational Mathematics 2014
- **Invited speaker**, XVII Congress of Mathematics Teaching and Education 2018
- **Invited speaker**, SIAM Annual Meeting 2020

RESEARCH PROJECTS AND GRANTS (AS PRINCIPAL INVESTIGATOR)

- **Approximation Theory and Orthogonal Polynomials** 1995–2012
Junta de Andalucía (Spain). Code FQM-0229
- **Rational Approximation of analytic functions...** 2001–2003
European Union Research Project INTAS-2000-272
 - Coordinator: Walter Van Assche (Katholieke Universiteit Leuven, Belgium)
 - Andalucía team leader: Andrei Martínez-Finkelshtein
- **Density Functionals in Quantum Mechanical Systems and Theory of Special Functions** 2002–2005
Research project BFM2001-3878-C02-02 from Ministerio de Ciencia y Tecnología of Spain
 - Project coordinators: Jesús S. Dehesa and Andrei Martínez Finkelshtein
- **Special functions and orthogonal polynomials. Constructive approximation and applications** 2005–2008
Research grant MTM2005-08648-C02 from the Spanish Ministry of Education and Science
- **Network Consolider Ingenio–Mathematica (i-math)** 2006–2011
Ministerio de Educación y Ciencia of Spain

- Coordinator: Enrique Zuazua
- Principal investigator of the team: Andrei Martínez Finkelshtein
- **Orthogonality, non-linearity and information theory** 2007–2011
Excellence Grant P06-FQM-01735 from Junta de Andalucía, Spain
- **Orthogonal Polynomials: Theory and Applications in Mathematics, Physics and Technology** 2009–2011
Grant MTM2008-06689-C02 from Ministerio de Ciencia e Innovación (MICINN) of Spain
- **A monitoring system of impact of different surgical techniques on keratoconus** 2011–2013
Grant FIS PI10/01843 of Strategic Action in Health from Instituto de Salud Carlos III of Spain
- **Special functions and approximation theory: applications in Science and Technology** 2012–2014
Grant MTM2011-28952-C02 of the Ministry of Science and Innovation of Spain
- **Approximation theory, special functions, and mathematical models** 2013–2017
Grant MTM2014-53963-P from the Ministry of Science and Innovation of Spain
- **Approximation and orthogonality: from theory to applications** 2015–2018
Excellence grant P11-FQM-7276, Junta de Andalucía, Spain
 - Coordinators: Andrei Martínez-Finkelshtein and Juan J. Moreno Balcázar
- **Constructive Approximation: Analysis, Algorithms and Applications** 2018–2021
Grant MTM2017-89941-P from Ministry of Economy and Competitiveness of Spain
 - Coordinators: Andrei Martínez-Finkelshtein and Juan J. Moreno Balcázar
- **The Baylor Analysis Conference** 2020–2022
NSF grant DMS-1952977
 - Principal Investigators: Fritz Gesztesy and Andrei Martínez-Finkelshtein
- **Asymptotic methods for non-standard orthogonality** 2021–2025
Grant 710499 from Simons Foundation Collaboration Grants for Mathematicians

RESEARCH CONTRACTS

- **Development of a predictive model for implant of intra-corneal rings...** 2009–2010
Project PI08/90519 from the Instituto de Salud Carlos III of Spain
 - Principal Investigator: Jorge L. Alió

MEMBERSHIP IN EDITORIAL BOARDS

- **Computational Methods and Function Theory** (ISSN 1617-9447) 2005–
- **Journal of Approximation Theory** (ISSN 0021-9045) 2006–
- **Journal of Spectral Theory** (ISSN 1664-039X) 2010–
- **Surveys in Approximation Theory** (ISSN 1555-578X) 2023–
- **Constructive Approximation** (ISSN 0176-4276) 2024–
- **Mathematics of Computation** (ISSN 1088-6842) 2017–2025
- **Random Matrices: Theory and Applications** (ISSN 2010-3263) 2011–2022
- **Journal of Mathematical Analysis and Applications** (ISSN 0022-247X) 2019–2022

MASTER STUDENTS

- **L. Marín López**, Almería University, Spain 2002
- **A. B. Castaño Fernández**, Almería University, Spain 2013
- **P. Pérez López**, Almería University, Spain 2015
- **C. M. Galera Martínez**, Almería University, Spain 2015
- **Manuel Jaime Villegas Rodríguez**, Almería University, Spain 2024

PH. D. STUDENTS

- **Juan J. Moreno Balcázar**, Granada University, Spain 1997
- **Pedro Martínez González**, Almería University, Spain 2001
- **Pedro López Artés**, Almería University, Spain 2002
- **Joaquín Sánchez Lara**, Almería University, Spain 2005
- **Vítor Sousa**, Universidade de Aveiro, Portugal 2011
- **Darío Ramos-López**, Almería University, Spain 2014
- **A. B. Castaño Fernández**, Almería University, Spain 2017
- **Taylor Poe**, Baylor University, USA 2021

SELECTED PUBLICATIONS

More than 100 scientific publications, with h-index 26 according to Scopus. Among the selected publications:

Most recent:

- A. Martínez-Finkelshtein, E. A. Rakhmanov, *Weighted equilibrium and the flow of derivatives of polynomials*, accepted in the volume “Recent Advances in Approximation and Potential Theory,” dedicated to the 80th birthday of Edward Saff, to be published in the Applied and Numerical Harmonic Analysis Springer book series. Also preprint arXiv:2501.09199, 2025.
- A. Martínez-Finkelshtein, E. A. Rakhmanov, *Flow of the zeros of polynomials under iterated differentiation*, preprint arXiv:2408.13851, 2024.
- A. Martínez-Finkelshtein, R. Morales, D. Perales, *Zeros of generalized hypergeometric polynomials via finite free convolution: Applications to multiple orthogonality*, Constructive Approximation, DOI 10.1007/s00365-025-09703-w, 2025. Also preprint arXiv:2404.11479, 2024.
- A. Martínez-Finkelshtein, R. Morales, D. Perales, *Real roots of hypergeometric polynomials via finite free convolution*, International Mathematics Research Notices, Volume **2024**, Issue 16, August 2024, Pages 11642–11687, <https://doi.org/10.1093/imrn/rnae120>.
- A. Martínez-Finkelshtein, R. Morales, *Interlacing and monotonicity of zeros of Angelesco-Jacobi polynomials*, Pure and Applied Functional Analysis **9** (5), 1259–1279, 2024.
- A. Martínez-Finkelshtein, R. Orive, J. Sánchez-Lara, *Electrostatic partners and zeros of orthogonal and multiple orthogonal polynomials*, Constructive Approximation **58**, 271–342, 2023.
- M. Hunziker, A. Martínez-Finkelshtein, T. Poe, B. Simanek, *Poncelet-Darboux, Kippenhahn, and Szegő: interactions between projective geometry, matrices and orthogonal polynomials*, J. Mathematical Analysis and Appl. **511** (1), 126049, 2022.
- A. Martínez-Finkelshtein, G. Silva, *Spectral curves, variational problems, and the hermitian matrix model with external source*, Comm. Math. Physics **383** (3), 2163–2242, 2021.
- F. Gesztesy, A. Martínez-Finkelshtein (eds.), “From Operator Theory to Orthogonal Polynomials, Combinatorics, and Number Theory”, Operator Theory: Advances and Applications **285**, 2021.
- G. M. Castro-Luna, A. Martínez-Finkelshtein, D. Ramos-López, *Robust keratoconus detection with Bayesian network classifier for Placido-based corneal indices*, Contact Lens & Anterior Eye **43**, 366–372, 2020.

Most cited:

- A. Martínez-Finkelshtein, E. A. Rakhmanov, *Critical measures, quadratic differentials, and weak limits of zeros of Stieltjes polynomials*, Comm. Math. Physics **302**, 53–111, 2011.
- A.B.J. Kuijlaars, A. Martínez-Finkelshtein, F. Wielonsky, *Non-intersecting squared Bessel paths and multiple orthogonal polynomials for modified Bessel weights*, Communications in Mathematical Physics **286**, 217–275, 2009.
- A.B.J. Kuijlaars, A. Martínez-Finkelshtein, *Strong asymptotics for Jacobi polynomials with varying nonstandard parameters*, J. d’Analyse Mathématique **94**, 195–234, 2004.
- A.B.J. Kuijlaars, A. Martínez-Finkelshtein, R. Orive, *Orthogonality of Jacobi polynomials with general parameters*, Electronic Trans. Numer. Anal. **19**, 1–17, 2005.
- A. Martínez-Finkelshtein, K. T.-R. McLaughlin, and E. B. Saff, *Asymptotics of orthogonal polynomials with respect to an analytic weight with algebraic singularities on the circle*, Internat. Math. Research Notices, Art. 91426, 2006.

- A. Martínez-Finkelshtein, *Analytic aspects of Sobolev orthogonality revisited*, J. Comput. and Appl. Math. **127** (1-2), 255-266, 2001.
- A. Martínez-Finkelshtein, *Bernstein-Szegő's theorem for Sobolev orthogonal polynomials*, Constr. Approx. **16**, 73-84, 2000.

VISITS AND SCIENTIFIC EXCHANGE

- **University of South Florida**, visiting professor *January–May 2000*
- **Katholieke Universiteit Leuven (Belgium)**, visiting professor *May 2002*
- **Université des Sciences et Technologies de Lille (France)**, visiting professor *February–March 2003*
- **Vanderbilt University**, visiting professor *August–December 2003*
- **University of the Witwatersrand (South Africa)**, visiting professor *September–October 2005*
- **Institute for Low Temp. Physics and Engineering, Kharkov (Ukraine)**, visiting professor *May 2006*
- **Katholieke Universiteit Leuven (Belgium)**, visiting professor *June 2006*
- **Universidade de Aveiro (Portugal)**, visiting professor *June–July 2006*
- **California Institute of Technology**, visiting professor *September–October 2006*
- **California Institute of Technology**, visiting professor *February 2008*
- **California Institute of Technology**, visiting professor *May 2009*
- **California Institute of Technology**, visiting professor *April 2010*
- **California Institute of Technology**, visiting professor *November–December 2011*
- **Faculty of Sciences of Gabès (Tunisia)**, visiting researcher *November 2013*
- **Vanderbilt University**, visiting professor *August–December 2014*

SCIENTIFIC MEETINGS: INVITED TALKS

More than 70 plenary and invited talks at international meetings and conferences. Among the selected presentations:

- VI Meeting of the Orthonet Network, Madrid, Spain; December 2024, Opening plenary lecture “Luis Vigil”: *Flow of the zeros of polynomials under iterated differentiation*.
- 17th Symposium on Orthogonal Polynomials, Special Functions, and Applications (OPSFA17), Granada University, Granada (Spain), June 24-28, 2024: *Hypergeometric Polynomials with Free Probability Tools*.
- International Conference on Analysis and Applications in honor of Prof. Roderick S. C. Wong’s 80th birthday, City University of Hong Kong, June 3-6, 2024: *On the flow of zeros of derivatives of polynomial*.
- "Asymptotics, Randomness, Nonlinearity, and Orthogonality 2024" (ARNO 2024), Leuven (Belgium), May 27-31, 2024: *Classical multiple orthogonal polynomials and free probability*.
- An international conference "Hypergeometric and Orthogonal Polynomials", Radboud University Nijmegen (Netherlands), May 1-3, 2024: *Zeros of hypergeometric polynomials and free probability*.
- Workshop on mathematical billiards, University of Texas at Dallas, August 26-27, 2023: *Poncelet-Darboux, Kippenhahn, and Szegő: projective geometry, matrices, and orthogonal polynomials*.
- Mathematics Days in Sofia, workshop “Hausdorff Geometry of Polynomials”, Sofia (Bulgaria), July 10-14, 2023: *On the flow of zeros of derivatives of polynomials*.
- Conference "Orthogonal Polynomials and Applications", KU Leuven, Leuven (Belgium), June 8-10, 2023: *On the flow of zeros of derivatives of polynomials*.
- 2020 SIAM Annual Meeting, jointly with the Canadian Applied and Industrial Mathematics Society (CAIMS), July 6–10, 2020: *Multi-applications of multi-orthogonality*.
- Workshop “Complex analysis in mathematical physics and applications”, Newton’s Institute for Mathematical Sciences, Cambridge (UK), October 28–November 1, 2019: *Spectral curves, variational problems, and the hermitian matrix model with external source*.
- The 14th International Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSFA14), University of Kent, Canterbury (UK), July 3–7, 2017: *Math is in the eye of the beholder* (public lecture).
- Congress of the Spanish Royal Society of Mathematics, special session on orthogonal polynomials, Zaragoza, Spain, January 30 – February 3, 2017: *Zeros of polynomials of non-hermitian orthogonality*.
- CRM Conference “Frontiers in Mathematical Physics”, Montréal (Canada), August 28–September 1, 2016: *Do polynomials dream of quadratic differentials?*

ORGANIZATION OF SCIENTIFIC EVENTS

Member of the organizing committee of more than 30 international meetings and conferences. Among the selected meetings:

- Mini-Symposium “Orthogonal Polynomials and Special Functions” within the 7th annual meeting of the SIAM Texas-Louisiana section, Baylor University, October 2024.
- Workshop “Special Functions and Orthogonal Polynomials” within the Conference Foundations of Computational Mathematics (FoCM’2023), Paris (France), June 12–21, 2023.
- Joint Mathematical Meetings JMM 2023, Boston, MA (USA), January 4-7, 2023; organizer of the AMS Special Session on Orthogonal Polynomials and their Applications.
- Co-organizer of the International Conference “Baylor Analysis Fest: From Operator Theory to Orthogonal Polynomials, Combinatorics, and Number Theory”, Baylor University (Waco, Texas, USA), May 23-27, 2022.
- Workshop organizer at the 2020 SIAM Annual Meeting, jointly with the Canadian Applied and Industrial Mathematics Society (CAIMS), online, July 6-10, 2020.
- Workshop organizer of the 15th International Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSFA15), Hagenberg (Austria), July 22–26, 2019.
- Member of the Scientific Committee of the Conference Foundations of Computational Mathematics (FoCM’2017), Barcelona, (Spain), July 10–19, 2017.
- Member of the Scientific Committee and Workshop organizer of the 14th International Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSFA14), University of Kent, Canterbury (UK), July 3–7, 2017.
- Member of the Scientific Committee of the CRM Conference “Frontiers in Mathematical Physics”, Montréal (Canada), August 28–September 1, 2016.

PARTICIPATION IN COMMITTEES

- Coordinator (Chair) of the Section “Mathematics” within the Spanish National Agency of Assessment (ANEP) of the Ministry of Economics and Competitiveness, January 2015–July 2018.
- Member of several Assessment Committees for the Spanish Ministry of Science and Education, and of Economy and Competitiveness (2006–2018).
- External Reviewer for:
 - the Research Grant Council of Hong Kong, in 2005 and 2010,
 - the National Research Foundation of South African Republic, in 2002 and 2006,
 - the Natural Sciences and Engineering Research Council of Canada, in 2006,
 - the Research Foundation – Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO), in 2011, 2012, 2013 and 2014.
- Member of the assessment committee of contributions for the International Congress of Mathematicians (ICM’06).
- Member of the selection committees for the 2017 and 2019 Gabor Szegő prize from the Society for Industrial and Applied Mathematics.
- Member of the selection panel of the “la Caixa” Fellowship Programs for graduate studies, in 2017, 2018, and 2022, and of the experts panel in 2019 and 2025.

OTHER SCIENTIFIC ACTIVITIES

- Member of the following professional societies: American Mathematical Society (1993–present), Society for Industrial and Applied Mathematics (1998–present), Sociedad Española de Historia de las Ciencias y de las Técnicas (1997–2018), Real Sociedad Matemática Española (1999–present), The Mathematical Association of America (2008–2018), Sociedad Española de Matemática Aplicada (2006–present), Association for Research in Vision and Ophthalmology (2009–2018), Asociación Española de Tecnología y Cirugía de Implantes, Refractiva y Córnea (2009–2018), Spanish Network on Orthogonal Polynomials and Approximation Theory (ORTHONET), since 2012 (Secretary 2012–2015).
- Vice-chair (2017–2019) and Program Director (2020–2025) of the SIAM Activity Group “Orthogonal Polynomials and Special Functions”.