

CURRICULUM VITAE

Jose M. de la Rosa, PhD
Full Professor, IEEE Fellow

August 2022

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1. BIOGRAPHY



José M. de la Rosa received the M.S. degree in Physics in 1993 and the Ph.D. degree in Microelectronics in 2000, both from the University of Seville, Spain. Since 1993 he has been working at the Institute of Microelectronics of Seville (IMSE), which is its turn part of the Spanish Microelectronics Center (CNM) of the Spanish Council of Scientific Research (CSIC). He is presently the vicedirector of IMSE and he is also a Full Professor at the Dept. of Electronics and Electromagnetism of the University of Seville.

His main research interests are in the field of analog and mixed-signal integrated circuits, especially high-performance data converters, including analysis, behavioral modeling, design and design automation of such circuits. In these topics, Dr. de la Rosa has participated in a number of Spanish and European research and industrial projects, and has co-authored over 260 international publications, including journal and conference papers, book chapters and the books *Systematic Design of CMOS Switched-Current Bandpass Sigma-Delta Modulators for Digital Communication Chips* (Kluwer, 2002), *CMOS Cascade Sigma-Delta Modulators for Sensors and Telecom: Error Analysis and Practical Design* (Springer, 2006), *Nanometer CMOS Sigma-Delta Modulators for Software Defined Radio* (Springer, 2011) and *CMOS Sigma-Delta Converters: Practical Design Guide* (Wiley-IEEE Press, 2013, 2nd Ed. 2018).

Dr. de la Rosa is an IEEE Fellow, and a member of the *Analog Signal Processing Technical Committee* of IEEE-CASS. He has served as Distinguished Lecturer of the IEEE Circuits and Systems Society (term 2017-2018), and as Chair of the Spain Chapter of IEEE-CASS (term 2016-2017). He served as the Editor-in-Chief of *IEEE Transactions on Circuits and Systems II: Express Briefs* (2020-2021), and as Associate Editor for *IEEE Transactions on Circuits and Systems I: Regular Papers* (2012-2016), where he received the 2012-2013 Best Associate Editor Award and served as Guest Editor of the Special Issue on the *Custom Integrated Circuits Conference (CICC)* in 2013 and 2014. He served also as Guest Editor of the Special Issue of the *IEEE J. on Emerging and Selected Topics in Circuits and Systems* on Next-Generation Delta-Sigma Converters. He is a member of the *Steering Committee* of IEEE MWSCAS and he has also involved in the organizing and technical committees of diverse international conferences, among others IEEE ISCAS, IEEE MWSCAS, IEEE ICECS, IEEE LASCAS, IFIP/IEEE VLSI-SoC and DATE. He served as TPC chair of IEEE MWSCAS 2012, IEEE ICECS 2012, IEEE LASCAS 2015 and IEEE ISICAS (2018 and 2019). He has been a member of the Executive Committee of the IEEE Spain Section (terms 2014-2015 and 2016-2017), where he served as Membership Development Officer (term 2016-2017). He is a member of the TechRxiv Editorial Advisory Board since 2022.

2. PRESENT PROFESSIONAL STATUS

Position: Full Professor, Head of Research Group, Vicedirector of IMSE-CNM (CSIC/Univ. Seville)

Civil Servant No.: 3125696702 A0504.

Institution Affiliation: Institute of Microelectronics of Seville, IMSE-CNM (CSIC/Univ. of Seville)

3. ACADEMIC TITLES

Degree	Year	Educational Institution	Location
PhD in Microelectronics	2000	University of Seville	Seville, Spain
MS Degree in Physics	1993	University of Seville	Seville, Spain

4. PROFESSIONAL HISTORY

Teaching Positions

From (year) to (year)	Educational Institution	Position Held
From 2016 to date	University of Seville	Full Professor
From 2013 to 2016	University of Seville	Accredited as a Full Professor
From 2002 to 2013	University of Seville	Associate Professor
From 1998 to 2002	University of Seville	Assistant Professor
From 1994 to 1998	University of Seville	Teaching Assistant

Research Positions

From (year) to (year)	Research Institution	Position Held
From 2018 to date	IMSE-CNM (CSIC)	Vicedirector
From 2011 to date	IMSE-CNM (CSIC)	Head of Research Group
From 2000 to 2011	IMSE-CNM (CSIC)	Senior Researcher
From 1993 to 2000	IMSE-CNM (CSIC)	Researcher

5. MAIN TEACHING ACTIVITIES

Undergraduate Courses

- From 1994 to 1998: Electronics, Circuit Theory, Systems & Communication Theory
- From 1999 to 2007: Electronic Circuits for Telecom, Analog Integrated Circuits and Systems
- From 2007 to 2013: Electronic Materials and Devices, Electronic Circuits for Telecom
- From 2013 to date: Electronic Materials and Devices, Nanomaterials and Nanotechnology, Numerical and Simulation Methods in Physics and Engineering
- From 2022 to date: Analog signal conditioning and analog-to-digital converters

Master Courses

- From 2008 to date: Wireless Transceivers – Standards, Techniques and Architectures
- From 2010 to 2012: RF Circuits and Systems.

6. DIRECTION OF THESIS

PhD Theses

Title: Analysis and Design of Reconfigurable Low-Noise Amplifiers for Wireless Multi-Standard Telecom Systems integrated in nanometer CMOS technologies

Author: Edwin Christian Becerra Alvarez

Defense date: June 29, 2010

Title: Reconfigurable Sigma-Delta Modulators for Multi-Standard Wireless Communications in Nanometer CMOS Technologies

Author: Alonso Morgado

Defense date: February 8, 2011

Title: Design of Continuous-Time Cascade Sigma-Delta Modulators for Wideband Telecom Systems

Author: Ramón Tortosa

Defense date: June 28, 2012

Title: Design of Hybrid Continuous-Time/Discrete-Time Multi-Rate Cascade Sigma-Delta Modulators

Author: Luis I. Guerrero-Linares

Defense date: August 2, 2012

Title: Readout Electronic System for Accurate Spatial Detection in Ion Beam Tracking for the Next Generation of Particle Accelerators

Author: Alejandro Garzón-Camacho

Defense date: December 4, 2014

Title: Widely Tunable Band-Pass Sigma-Delta ADCs

Author: Gerardo Molina-Salgado

Defense date: July 3, 2015.

Title: Efficient LNAs and $\Sigma\Delta$ ADCs for Ultra-low-power Wireless Receivers

Author: Luis A. García-Lugo

Defense date: July 24, 2018.

Title: Downsampling Multi-rate Hybrid CT/DT Sigma-Delta Modulators

Author: Gerardo García-Sánchez

Defense date: December 17, 2018.

Title: Memristor Based Event Driven Neuromorphic Nano-CMOS Processor

Author: Charanraj Mohan

Defense date: February 19, 2021.

Title: Analog-to-Digital Converters for Efficient Portable Devices

Author: Sohail Asghar

Defense date: March 19, 2021.

Relevant Master Theses

Title: Continuous-Time Cascade Sigma-Delta Modulators

Author: Ramón Tortosa

Defense date: September 2005

Title: Toolbox for the High-Level Synthesis and Simulation of Pipeline ADCs

Author: Jesús Ruiz-Amaya

Defense date: September 2005

Title: Reconfigurable Sigma-Delta Modulators for Multi-Standard Wireless Transceivers

Author: Alonso Morgado

Defense date: October 2007

Title: Adaptive Low-Noise Amplifiers for Multi-Standard Wireless Telecom Systems integrated in nanometer CMOS technologies

Author: Edwin C. Becerra-Alvarez

Defense date: December 2009

Title: Downsampling Multi-Rate Hybrid (CT/DT) Cascade Sigma-Delta Modulators

Author: Gerardo García-Sánchez

Defense date: July 2010

Title: Design of a Mixed-Signal Line Receiver for Spatial Detection in Ion Beam Tracking

Author: Alejandro Garzón-Camacho

Defense date: December 2012

Title: Application of Deep Learning Neuromorphic Systems for Cognitive Radio based with Deep Learning for Cognitive Radio-Based Communication Systems.

Author: Virginia Zúñiga-González

Defense date: July 2020

Title: Time Series Forecasting with Deep Learning for Cognitive-Radio Applications

Author: Promise I. Okorie

Defense date: December 2021

Relevant Graduation Theses and Undergraduate Projects in Industry

Title: SDTOOLBOX: A Tool for the Behavioral Simulation of $\Sigma\Delta$ Modulators in the MATLAB/SIMULINK Environment

Author: Javier Moreno-Reina

Defense date: June 2002

Title: Simulation and Optimization Environment for Discrete-time and Continuous-time $\Sigma\Delta$ Modulators Based on the Combined Use of MATLAB/SIMULINK and FRIDGE

Author: Jesús Ruiz-Amaya

Defense date: May 2003

Title: Design of Cascade $\Sigma\Delta$ modulators for Multi-Standard Communication Systems: A GSM/Bluetooth/UMTS/WLAN Case Study implemented in a 130nm CMOS Technology

Author: Alonso Morgado

Defense date: October 2005

Title: Wireless Sensor Networks: Review of the State-of-the-Art and Application to Biomedicine

Author: Esther Bravo-Barquero

Defense date: September 2006

Title: Design of High-Speed Cascade Continuous-Time $\Sigma\Delta$ Modulators

Author: Antonio Aceituno

Defense date: September 2007

Title: Design and Implementation of a Mixed-Signal Preamplifier for Mini-Secondary Electron Detectors

Author: Alejandro Garzón-Camacho

Defense date: December 2010

Title: Review of Carbon-Nanotube Structures and Devices for Nanoelectronics Applications

Author: Rocío Moriche-Tirado

Defense date: September 2011

Title: Overview of Simulation Techniques and CAD Tools for the Design of Integrated Circuits based on Carbon Nanotubes

Author: Enrique Espejo

Defense date: July 2012

Title: Automated Test Techniques for High-Performance Continuous-Time Sigma-Delta Modulators

Author: Diana García-Osuna

Defense date: October 2013

Title: Review of Carbon-based Transistors and Comparative Study of Electrical Simulation Models

Author: Manuel Porcel de Soto

Defense date: September 2014

Title: Review of Electrical Models for the Simulation of Carbon-based Circuits and Systems

Author: Pierre Auguste

Defense date: July 2015

Title: Systematic design of analog and mixed-signal CMOS integrated circuits

Author: Laura Ramírez Jaldón

Company and academic course: Teledyne Anafocus, course 2017-2018

7. INTERNATIONAL COURSES AND TUTORIALS

- J.M. de la Rosa: *Switched-Current Bandpass Sigma-Delta Modulators for Digital Radio Receivers*, Institute Supérieur d'Electronique du Nord, ISEN-IEMN, CNRS. Lille, France, September 1997.
- J.M. de la Rosa and A. Rodríguez-Vázquez: *Bandpass Sigma-Delta Modulators: Principles, Architectures and Circuits*. Course on CMOS Data Converters for Communications. ESD-MSD Mixed Signal Design Cluster. May 6-10, 2002.
- A. Rodríguez-Vázquez and J.M. de la Rosa: "Frontiers of Sigma-Delta Data Converters". *IEEE European Conference on Circuit Theory and Design (ECCTD)*, Cork, Ireland, September 2005.
- R. del Río and J.M. de la Rosa: *Sigma-Delta Converters: From Basics to State of the Art*. Royal Institute of Technology (KTH), Stockholm, Sweden, April 2007.
- J.M. de la Rosa and M. Ismail: "Adaptive CMOS Analog Circuits for 4G Wireless Networks." *IEEE European Conference on Circuit Theory and Design (ECCTD)*, Sevilla, August 2007.
- J.M. de la Rosa: "Design of Sigma-Delta Converters in Nanoscale CMOS – A Practical Design Guide." *IEEE Int. Symposium on Circuits and Systems (ISCAS)*, Paris, May 2010.
- J.M. de la Rosa: *Systematic Design of Analog, Mixed-Signal and RF CMOS ICs*. PADTS-INTEL Workshops Series, Guadalajara, Mexico, June 2010.
- J.M. de la Rosa: *Nanometer CMOS Wireless Transceivers: Applications to the Next Generation of Software-Defined-Radio Mobile Terminals*, EAMTA-CAMTA, Montevideo, Uruguay, October 2010.
- J.M. de la Rosa: *Trends and Challenges in the Design of Sigma-Delta Modulators – State-of-the-art Survey and Application to Software-Defined Radio*. *IEEE Intl. Conference on Microelectronics (ICM)*, Cairo, Egypt, December 2010.
- J.M. de la Rosa: *Overview of Sigma-Delta Modulators: Fundamentals, State-of-the-Art Survey and Practical Design Guide*, Advanced Topics in Microelectronic Engineering (co-sponsored by the *IEEE Solid-State Circuits Society*, UK&RI Chapter), Tyndall National Institute, Cork, April 2013.
- J.M. de la Rosa: "Efficient Behavioral Modeling and Simulation Techniques for the Systematic Design of Analog Integrated Circuits and Systems: Application to Wireless Receivers and Sigma-Delta Converters." *IEEE MWSCAS*, Columbus, Ohio, August 2013.
- J.M. de la Rosa: "Design Guide of High-Performance Sigma-Delta Data Converters: From Specifications to Chip Implementation and Measurements." *IEEE Intl. Midwest Symposium on Circuits and Systems (MWSCAS)*, College Station, Texas, August 2014.

- G. Jovanovic, G. Molina-Salgado, J.M. de la Rosa: “Comb-based Decimation Filters for Sigma-Delta A/D Converters: Algorithms and Implementation.” *IEEE Latin American Symposium on Circuits and Systems (LASCAS)*, Montevideo, February 2015.
- J.M. de la Rosa: “Sigma-Delta Converters – From Basics to Chip.” *Training Courses at Analog Devices Inc.*, Valencia, Spain, June 2015, and Limerick, Ireland, August 2015.
- J.M. de la Rosa: “Sigma-Delta converters: Fundamentals, State of the Art and Applications”, *IEEE STAR-CAS Workshop: Selected Topics on Advanced Research on Circuits and Systems*, University of Pavia, Pavia, Italy, September 28-30, 2015.
- J.M. de la Rosa, S. Pavan, N. Maghari, and S. Ho: “Designing High-Performance $\Sigma\Delta$ Converters – All You Need to Know and Nobody Told You.” *IEEE Int. Symposium on Circuits and Systems (ISCAS)*, Montreal, May 2016.
- J.M. de la Rosa: “Designing $\Sigma\Delta$ Converters – From Theory Foundations to Chip Implementation.” *IEEE Distinguished Lecture/Tutorial*, Lima, Peru, August 13, 2018.
- J.M. de la Rosa: “Sigma-Delta ADCs for IoT – Basics and Innovations.” *2nd IEEE Seasonal School in Circuits and Systems for the Industrial Internet of Things*, Lisbon, Portugal, November 29, 2018.
- J.M. de la Rosa: “Efficient Digitizers for a Digital-Driven World.” *Keynote Talk at the Design of Circuits and Integrated Systems (DCIS) Conf.*, Bilbao, Spain, November 2020.
- J.M. de la Rosa: “AI-Managed Digitizers for Cognitive Radio.” *IEEE Latin American Symposium on Circuits and Systems (LASCAS)*, February 2021.
- J.M. de la Rosa: “AI-Managed Analog/Digital Interfaces: Application to Cognitive Radio Digitizers.” *IEEE Int. Symposium on Circuits and Systems (ISCAS)*, May 2021.
- Jose M. de la Rosa and Luis A. Camuñas-Mesa: Highly-Programmable AI-Managed Sigma-Delta Converters – Application to Cognitive Radio. Tutorial at the *IEEE 14th International Conference on ASIC*, October, 2021.
- Jose M. de la Rosa: Smart Sigma-Delta Digitizers for Software-Defined Radio and Cognitive Radio. *Spring Seminars at Texas A&M University*, April 22, 2022.

8. PLENARY/INVITED TALKS AND IEEE DISTINGUISHED LECTURERS

- J.M. de la Rosa: *Microelectronics – The Engine of the Information Society*, University of Cádiz, Spain, November 2004.
- J.M. de la Rosa: *The Revolution of Microelectronics and Telecommunications*, University of Seville, Spain, December 2004.
- J.M. de la Rosa: *Reconfigurable Chips: Towards the Fourth-Generation of Mobile Phones*, University of Seville, Spain, November 2007.
- J.M. de la Rosa: “High-Performance Analog and Mixed-Signal Integrated Circuits – Our Experience at IMSE”, *Workshop on Electronics for Novel Nuclear Physics Detectors*, Spanish Accelerators Center, Sevilla, Spain, October 2008.
- J.M. de la Rosa: “Flexible Nanometer CMOS Analog/RF ICs for Software Defined Radio”, *EAMTA 2010*, Montevideo, Uruguay, October 2010.
- J.M. de la Rosa: “Efficient Analog CMOS Circuits for the Next Generation Software-Defined-Radio Mobile Systems – Trends, Challenges and Solutions”, *2nd Intl. Symposium on Innovation and Technology*, Lima, Peru, November 2011.
- J.M. de la Rosa: *Sigma-Delta Converters – Systematic Design from Systems to Chip & Application to Software Defined Radio*, co-sponsored by the *IEEE Circuits and Systems Society*, Spain Chapter, University of Zaragoza, Zaragoza, Spain, February 2015.

- J.M. de la Rosa: *Intensive Courses on Sigma-Delta Converters*, co-sponsored by the *IEEE Circuits and Systems Society*, Spain Chapter, University of Zaragoza, Zaragoza, Spain, January 8, 2016, January 13, 2017.
- J.M. de la Rosa: "Design Guidelines of $\Sigma\Delta$ Modulators: From System to Chip and Application to Reconfigurable ADCs", *2016 IEEE Intl. Conference on Electron Devices and Solid-State Circuits (EDSSC)*, Hong Kong, August 2016.
- J.M. de la Rosa: "Next Generation Sigma-Delta Converters: Trends and Challenges in a Digital-Driven World." *IEEE Distinguished Lecturers* given in Natal, Brazil (Sep. 2017); Montreal, Canada (October 2017); Hong Kong (October 2017); Dublin & Cork, Ireland (February 2018), Lima, Peru (August 2018); Curitiba & Porto Alegre, Brazil (Oct. 2018).
- J.M. de la Rosa: Efficient ADCs in the Era of Digital Transformation. *Invited Talk at ShanghaiTech*, Shanghai, China, December 9, 2019.
- J.M. de la Rosa: Analog/Digital Interfaces in the Era of Digital Transformation. *Invited Talk at IEEE-CASS Talks*, Youtube @ Rio Grande do Sul Chapter, October 2020.

9. FUNDED RESEARCH PROJECTS, INDUSTRIAL CONTRACTS AND TECHNOLOGY TRANSFER

Research Projects (the most important out of ~30 European/Spanish projects are listed)

Title: AMFIS – Application Oriented Integrated Multifunction Interface Systems

Grant: ESPRIT-CEE 8795

Budget: 326000€

Duration: 1993-1996

Title: AMADEUS – Analog Modeling and Design Using a Symbolic Environment

Grant: ESPRIT IV-CEE 21812

Budget: 600000€

Duration: 1996-2000

Title: Design techniques and methodologies for High-Resolution ADCs in standard CMOS

Grant: C.I.C.Y.T. no TIC97-0580

Budget: 101451€

Duration: 1997-2000

Title: MIXMODEST – Mixed Mode in Deep Submicron Technology

Grant: ESPRIT IV Project 29261

Budget: 265000€

Duration: 1998-2001

Title: ADAVERE – Design of CMOS Reusable High-Resolution High-Speed ADCs

Grant: C.I.C.Y.T. no TIC 2001-0929

Budget: 232171€

Duration: 2001-2004

Title: TAMES – Testability of Analogue Macrocells Embedded in System-on-Chip"

Grant: IST-2001-34284

Budget: 311780€

Duration: 2002-2004

Title: MIDAS – Multi-Standard Integrated Devices for Broadband DSL Access and In-Home Powerline Communications

Grant: MEDEA+: MIDAS

Budget: 232727€

Duration: 2003-2005

Title: RAICOINF – Highly-Integrated Personal and Cellular Wireless Receivers based on IF Converters

Grant: C.I.C.Y.T. – RAICONIF

Budget: 175200 €

Duration: 2004-2007

Title: WW.CON.COM – Reconfigurable A/D Interfaces for Wireless and Wireline Communications Convergence

Grant: C.I.C.Y.T. no TEC2004-01752

Budget: 221320 €

Duration: 2004-2007

Title: SPIRIT – Secured Platform for Intelligent and Reconfigurable Voice and Data Terminals

Grant: MEDEA+ 2A101: SPIRIT

Budget: 215000€

Duration: 2006-2008

Title: ARAMIS – Adaptive RF and Mixed-signal Integrated Systems for 4G Wireless Telecom

Grant: TEC2007-67247-C02-00/MIC

Budget: 450483€

Duration: 2007-2010

Title: PLATFORM4G – Design Platforms for Adaptive Analog Integrated Systems in Fourth-Generation Wireless Telecom

Grant: TIC-2532

Budget: 221320 €

Duration: 2004-2007

Title: Nanometer CMOS Data Converters for Multi-Standard Wireless Transceivers

Grant: 2005MX0006-J110.481/2006

Budget: 15000€

Duration: 2008-2009

Title: FENIX-SDR – Flexible Nanometer CMOS Analog Integrated Circuits for the Next Generation of Software-Defined-Radio Mobile Terminals (FENIX-SDR)

Grant: TEC2010-14825/MIC

Budget: 236676€

Duration: 2010-2015

Title: FLEXICS – Design Techniques for Flexible & Reconfigurable Micro-Nanoelectronic Circuits and Systems for Low-Power Low-Cost Wireless Communication Systems

Grant: P12-TIC-1481

Budget: 181492€

Duration: 2014-2017

Title: MARAGDA – Multilevel Approach to the Reliability-Aware Design of Analog and Digital Integrated Circuits

Grant: TEC2013-45638-C3-3-R

Budget: 221700€

Duration: 2014-2017

Title: TOGETHER – Towards Trusted Low-Power Things: Devices, Circuits and Architectures
Grant: TEC2016-75151-C3-3-R
Budget: 199100€
Duration: 2016-2018

Title: NeuRAM3: Neural Computing Architectures in Advanced Monolithic 3D-VLSI Nano-Technologies
Grant: EU Horizon 2020 Programme (REF. 687299)
Budget: 483222€
Duration: 2016-2018

Title: Neuro-Radio: Cognitive Radio with embedded Neural Learning
Grant: REF. US-1260118
Budget: 30000€
Duration: 2020-2022

Title: CORDION: Cognitive Radio Digitizers for IoT
Grant: REF. PID2019-103876RB-I00
Budget: 55902€
Duration: 2020-2023

Title: COGNITIO: Design of Cognitive Interfaces for IoT devices with Artificial Intelligence.
Grant: REF. P20_00599
Budget: 50100€
Duration: 2020-2023

Industrial Contracts

Title: ADSL6-AD-CPE: Design of Up-Stream and Down-Stream Data Converter for New Generation
Contractor: Alcatel Microelectronics
Duration: February 2001 – July 2003

Title: DICTAM-IST1999- 12342 /Art. 68/83 LOU OG-017/02
Contractor: CSIC
Duration: July 2001 – December 2001

Title: MIXMODEST- 29261 / Art. 68/83 LOU OG-019/02
Contractor: CSIC
Duration: July 2001 – December 2001

Title: Art. 68/83 LOU OG-038/03
Contractor: CSIC
Duration: September 2002 – December 2002

Title: Art. 68/83 LOU OG-085/04
Contractor: CSIC
Duration: July 2003 – December 2003

Title: Art. 68/83 LOU OG-125/05
Contractor: CSIC
Duration: January 2005 – March 2005

Patents and Other Technology Transfer Activities

Title: SIMSIDES – A SIMulink-based SIGma-DELta Simulator

Description: Behavioral simulator for Sigma-Delta Analog-to-Digital Converters distributed for free at (www.imse-cnm.csic/simsides) and transferred to more than 200 academic institutions and companies all over the world)

Owner: IMSE-CNM (CSIC/University of Seville)

Role: Main researcher

Title: Highly Energy Efficient Widely Programmable Transconductor

Patent: P201400697

Owner: IMSE-CNM (CSIC/University of Seville)

Inventors: Alonso Morgado, Rocío del Río and Jose M. de la Rosa

Role: Main researcher

Title: ESPRIT IST-2001-34283 / Technology transfer agreement with Dolphin Integration

Description: Technology transfer agreement with Dolphin Integration

Role: Main researcher

Title: ADSL6-AD-CPE

Description: Sigma-Delta ADC, integrated in a modem system on chip for ADSL applications, included in the ST20190 chipset from STMicroelectronics, selling over five million samples during the first year (2005) in the market.

Datasheet available at: <http://www.chipcatalog.com/ST/ST20184.htm>

Role: Researcher and responsible of IC layout tasks.

10. AWARDS

- Award of Extraordinary Excellence (“San Alberto Magno” Best Qualification Award) for the 1988-1993 MS Physics Class. University of Seville, 1993.
- Abengoa Award for the Best Qualification of Undergraduate Degree (1993 Class) of the University of Seville, 1993.
- Best Paper Award (First Runner-Up), for the paper entitled “Multirate Hybrid Continuous-Time/Discrete-Time Cascade 2-2 Sigma-Delta Modulator for Wideband Telecom”, presented at “IFIP/IEEE Int. Conference on Very Large Scale Integration”, Hong-Kong, October 3-5, 2011.
- Best Paper Award for the paper entitled “High-Level Design of a Hybrid Sigma-Delta Modulator for UMTS/GSM/Bluetooth/WLAN Applications”, presented at “1st Workshop on Analog and Digital Electronic Design”, Guadalajara, Mexico, October 2011.
- Best Associate Editor Award of IEEE TCAS-I in the term 2012-2013.
- Best Student Paper Award (Third Runner-Up), for the paper entitled “Comb Structures for Sigma-Delta ADCs with High Even Decimation Factors”, presented at “IEEE Int. Midwest Symposium on Circuits and Systems”, College Station, Texas, USA, August 3-6, 2014.
- Best PhD-Forum Poster Award (Second Runner-Up), for the paper entitled “Sigma-Delta ADCs for Software-Defined-Radio Applications”, presented at “IFIP/IEEE Int. Conference on Very Large Scale Integration”, Playa del Carmen, Mexico, October 6-8, 2014.
- Best Paper Award for the paper entitled “Using Software-Defined Radio Learning Modules for Communication Systems”, presented at “XV International Conference of Technology, Learning and Teaching of Electronics TAAE 2022”, Teruel, Spain, June 29 – July 1, 2022.

11. IEEE AND OTHER RESEARCH/ACADEMIC ACTIVITIES AND SERVICES

IEEE Services & Memberships

- Distinguished Lecturer of the IEEE Circuits and Systems Society (term 2017-2018).
- Chapter Chair of the Spain Chapter of the IEEE Circuits and Systems Society (term 2016-2017).
- Secretary of the Spain Chapter of the IEEE Circuits and Systems Society (term 2014-2015).
- Membership Development Officer of the IEEE-Spain Section (term 2016-2017).
- Member of the Board of Governors of the IEEE-Spain Section (term 2014-2015).
- IEEE Membership: Student (1996-1999), Member (1999-2005), Senior Member (2006 to date).
- Member of the IEEE Circuits and Systems Society. From 1996 to date.
- Member of the IEEE Solid-State Circuits Society. From 1996 to date.

IEEE Technical Committees and Professional Memberships

- Member of the Analog Signal Processing Technical Committee (ASPTC) of the IEEE Circuits and Systems Society. From 2008 to date.
- Review Committee Member (RCM) of the IEEE International Symposium on Circuits and Systems (ISCAS). From 2008 to date.
- Track Chair of the Analog and Mixed-Signal Circuits Track of IEEE ISCAS 2018.
- Publications Chair of IEEE ISCAS 2020.
- Member of the Steering Committee of the Midwest Symposium on Circuits and Systems (MWSCAS). From 2012 to date.
- Member of the IEEE Design Automation and Test in Europe (DATE) technical committee in 2008, 2009.
- Member of the IEEE IEEE Int. Conference on Electronics Circuits and Systems (ICECS) technical committee in 2009, 2010, 2012, 2015.
- Member of the TPC of the IEEE Latin American Symposium on Circuits and Systems (LASCAS) in 2011, 2014, 2015, 2016.
- Member of the TPC of the 2nd Intl. Symposium on Innovation and Technology in 2011.
- Member of the TPC of the Doctoral Conference on Computing, Electrical and Industrial Systems (DoCEIS). From 2011 to date.
- Member of the TPC of the IEEE EDUCON in 2012.
- Member of the TPC of the IEEE Very Large Scale Integration & System-on-Chip (VLSI-SoC) in 2011, 2012, 2013 and 2015.
- Member of the TPC of the IEEE Intl. Symposium on Design and Diagnostics of Electronic Circuits and Systems 2015.

IEEE/Other Conference Organization Services

- TPC Chair of IEEE MWSCAS in 2012.
- TPC Chair of IEEE ICECS in 2012.
- TPC Chair of IEEE LASCAS in 2015.

- TPC Chair of IEEE International Symposium on Integrated Circuits and Systems (ISICAS) in 2018, 2019.
- Track Chair of IEEE VLSI-SoC in 2011, 2012 and 2013.
- Track Chair of IEEE ICECS in 2013 and 2015.
- Tutorials Chair of IEEE ISCAS in 2015.
- Organizer of the Workshop on Micro/Nanoelectronic Circuits and Systems, to be held during IEEE EUROCON 2015, in Salamanca, Spain, 8-11 September 2015.
- Review Committee Member (RCM) of the IEEE Int. Symposium on Circuits and Systems (ISCAS). From 2008 to date.
- Session Chair of a number of technical sessions in diverse international conferences including IEEE ISCAS, VLSI-SoC, ICECS, MWSCAS, EDUCON and ECCTD among others. From 2005 to date.

Editorial Services

- Editor in Chief of IEEE Transactions on Circuits and Systems – II: Express Briefs. From 2020 to 2021.
- Deputy Editor in Chief of IEEE Transactions on Circuits and Systems – II: Express Briefs. From 2016 to 2019.
- Associate Editor of the IEEE Transactions on Circuits and Systems – I: Regular Papers. From 2012 to 2015.
- Guest Editor of the IEEE Transactions on Circuits and Systems – I: Regular Papers on IEEE Custom Integrated Circuits Conference (CICC) in 2013 and 2014.
- Guest Editor of the Special Issue of the Springer Analog Integrated Circuits and Signal Processing on IEEE ICECS 2012.
- Guest Editor of the Special Issue of the Springer Analog Integrated Circuits and Signal Processing on IEEE LASCAS 2015.
- Guest (Lead) Editor of the Special Issue of the IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS) on Next-Generation Delta-Sigma Converters.
- Member of the TechRxiv Editorial Advisory Board since 2022 to date.

Other Professional Activities/Memberships

- Local co-organizer of the Review Meeting of Spanish ICT Research Projects in November 2007.
- Local co-organizer of the course “Leakage Aware Design of Nanometric CMOS Circuits”, founded by the FP7 European Research Program, held in Seville, Spain, in November 2007.
- External reviewer for the Netherlands Organization for Scientific Research (NWO) in October 2010.
- External reviewer for the Hercules Program for Medium-Sized Research Infrastructure (The Netherlands) in November 2011.
- Secretary of the Doctoral Program on Microelectronics of the University of Seville from 2011 to 2013.
- Member of the Board of Governors of the Faculty of Physics of the University of Seville. From 2013 to date.

- Member of the PhD Jury in a number of PhD thesis presented in diverse Spanish and European Universities, including KTH (Sweden), University of Pierre & Marie Curie (France) and University of Ulm (Germany), among others.
- External evaluator of a promotion to Full Professor at Boise State University, Idaho, USA in 2012.
- Regular reviewer in a number of international journals including: IEEE TCAS-I/II, IEEE JSSC, IET Circuits, Devices & Systems, IEEE Sensors Journal, Springer Analog Integrated Circuits and Signal Processing, Elsevier Microelectronics Journal, Elsevier Integration – The VLSI Journal, ETRI Journal, IET Electronics Letters, among others.

12. PUBLICATIONS

Books

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