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Short Biography

Rocío del Río received the degrees of *Licenciada* (M.Sc.) and *Doctora* (Ph.D.) in Physics, in the specialty of Electronics, both from the Univ. of Seville, Spain, in 1996 and 2004, respectively. In 1995 she joined the Institute of Microelectronics of Seville (IMSE-CNM, CSIC-Univ. de Sevilla), where she works in the group of “Analog and Mixed-Signal Microelectronics”.

In 1995 she also joined the Dept. of Electronics and Electromagnetism of the Univ. of Seville, where she is currently an Associate Professor. She has taught, among other courses, “Circuit Theory”, “Basic Electronics” and “Numerical and Simulation Methods” for the Bachelor in Physics, “Simulation of Electronic Circuits” for the degree in Computer Science Engineering, and “RF Front-end Circuit Design” for the Master in Microelectronics. She participates in the teaching activities of the “Experience Classroom”, dedicated to training activities for the elderly. She has been awarded by the Univ. of Seville with three diplomas of Teaching Excellence. She has coordinated the Master Degree in Microelectronics of the Univ. of Seville from 2016 to 2020.

Her main research interests are in the field mixed-signal circuits (with special emphasis in SC circuit techniques) and analog-to-digital converters, including analysis, behavioral modeling, and design automation (specially, of sigma-delta ADCs). She has participated in diverse National and International R&D projects and has co-authored more than 100 international publications, including journal and conference papers, books chapters, and the books *CMOS Cascade Sigma-Delta Modulators for Sensor 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).

She was co-recipient of the “Golden Leaf Award” at the 2014 Conference on Ph.D. Research in Microelectronics and Electronics (PRIME) and of the “Best Paper Award” at the 2014 IS&T/SPIE Electronic Imaging Conference on Image Sensor.

Dr. del Río is a Senior Member of the IEEE and belongs the Solid-State Circuits Society (SSCS) and the Circuits and Systems Society (CASS). She has participated in the organizing committees of the 2007 European Conf. on Circuit Theory and Design (ECCTD), of the 2010 European Solid-State Circuits Conf. (ESSCIRC), of the 2012 Intl. Conf. on Electronics, Circuits, and Systems (ICECS), and of the 2020 Intl. Symp. on Circuits and Systems (ISCAS). She has served as an Associate Editor of the International Journal Circuit Theory and Application (IJCTA, Wiley) from 2018 to 2020.

Education

Degree	Year	Academic Institution	Location
PhD. in Microelectronics	2004	University of Seville	Seville, Spain
<i>Licenciatura</i> (5-year degree) in Electronic Physics	1996	University of Seville	Seville, Spain

Professional History

Period of time	Academic Institution	Position held
19/11/07 - present	University of Seville	Associate Professor (Prof. Titular de Universidad)
01/06/07 - 18/11/07	University of Seville	Interim Associate Professor (Prof. Titular de Universidad - interina)
11/01/06 - 31/05/07	University of Seville	Assistant Professor (Prof. Colaborador Doctor Nivel II - laboral indefinido)
20/12/05 - 10/01/06	University of Seville	Assistant Professor (Prof. Colaborador Doctor Nivel II - laboral 5 años)
01/10/04 - 19/12/05	University of Seville	Assistant Professor (Prof. Asociado Tipo III)
08/11/00 - 30/09/04	University of Seville	Assistant Professor - full time (Prof. Asociado Tipo II - tiempo completo)
01/07/00 - 07/11/00	IMSE-CNM (CSIC)	Researcher under project contract - part time (Contrato Titulado Superior - tiempo parcial)
07/03/00 - 07/11/00	University of Seville	Assistant Professor - part time (Prof. Asociado Tipo II - tiempo parcial)
01/05/97 - 05/03/00	University of Seville	Predocctoral Scholar (Becaria FPD)

Quality Indicators of Scientific Production

Recognized research complements: 4 six-year terms

Recognized knowledge transfer complements: 1 six-year term

Citations: 1191 (Source: Google Scholar)

h-index: 18 (Source: Google Scholar)

i10-index: 33 (Source: Google Scholar)

Publications

Books

1. J.M. de la Rosa and R. del Río: *CMOS Sigma-Delta Converters: Practical Design Guide*, ISBN 978-1-119-97925-8, Wiley-IEEE Press, 2013.
2. A. Morgado, R. del Río, and J.M. de la Rosa: *Nanometer CMOS Sigma-Delta Modulators for Software Defined Radio*, ISBN 978-1-4614-0036-3 (Print) 978-1-4614-0037-0 (Online). Springer, 2011.
3. R. del Río, F. Medeiro, B. Pérez-Verdú, J.M. de la Rosa, and A. Rodríguez-Vázquez: *CMOS Cascade Sigma-Delta Modulators for Sensors and Telecom: Error Analysis and Practical Design*, ISBN 978-1-4020-4775-6. Springer, 2006.

Book Chapters

1. J. Fernández-Berni, M. Suárez, R. Carmona-Galán, V. Brea, R. del Río, D. Cabello, and A. Rodríguez-Vázquez: “Image Feature Extraction Acceleration”, Chapter in the book *Image Feature Detectors: Foundations, Innovations, and Applications* (A.I. Awad and M. Hassaballah, editors). Springer, 2016. (DOI: 10.1007/978-3-319-28854-3, ISBN: 978-3-319-28852-9, 978-3-319-28854-3)
2. F.V. Fernández, R. del Río, R. Castro-López, O. Guerra, F. Medeiro, and B. Pérez-Verdú: “Design Methodologies for Sigma-Delta Converters”, Chapter 15 in the book *CMOS Telecom Data Converters* (A. Rodríguez-Vázquez, F. Medeiro, and E. Janssens, editors) (ISBN 1-4020-7546-4), pp. 523-559. Kluwer Academic Publishers, 2003.
3. J.M. de la Rosa, B. Pérez-Verdú, R. del Río, F. Medeiro, and A. Rodríguez-Vázquez: “Bandpass Sigma-Delta A/D Converters: Fundamentals, Architectures and Circuits”, Chapter 11 in the book *CMOS Telecom Data Converters* (A. Rodríguez-Vázquez, F. Medeiro, and E. Janssens, editors) (ISBN 1-4020-7546-4), pp. 379-420. Kluwer Academic Publishers, 2003.
4. F. Medeiro, R. del Río, J.M. de la Rosa, B. Pérez-Verdú, and A. Rodríguez-Vázquez: “High-order Cascade Multi-bit $\Sigma\Delta$ Modulators”, Chapter 9 in the book *CMOS Telecom Data Converters* (A. Rodríguez-Vázquez, F. Medeiro, and E. Janssens, editors) (ISBN 1-4020-7546-4), pp. 307-343. Kluwer Academic Publishers, 2003.
5. A. Rodríguez-Vázquez, R. del Río, J.M. de la Rosa, R. Tortosa, F. Medeiro, and B. Pérez-Verdú: “Sigma-Delta CMOS ADCs: An Overview of the State-of-the-Art”, Chapter 2 in the book *CMOS Telecom Data Converters* (A. Rodríguez-Vázquez, F. Medeiro, and E. Janssens, editors) (ISBN 1-4020-7546-4), pp. 37-91. Kluwer Academic Publishers, 2003.
6. R. del Río, F. Medeiro, J.M. de la Rosa, B. Pérez-Verdú, and A. Rodríguez-Vázquez: “Correction-Free Multi-Bit Sigma-Delta Modulators for ADSL”, Chapter in the book *Analog Circuit Design: Structured Mixed-Mode Design, Multi-Bit Sigma-Delta Converters, Short Range RF Circuits* (M. Steyaert, A.H.M. van Roermund, and J.H. Huijsing, editors) (ISBN 1-4020-7216-3), pp. 335-360. Kluwer Academic Publishers, 2002.
7. A. Rodríguez-Vázquez, M. Delgado-Restituto, R. del Río, and B. Pérez-Verdú: “Applications and Architectures for Chaotic ICs: An Introduction”, Chapter 10 in the book *Chaotic Electronics in Telecommunications* (P. Kennedy, R. Rovatti, and G. Setti, editors) (ISBN 0-8493-2348-7), pp. 309-342. CRC Press, 2000.

Journal Papers (indexed)

1. M. Moreno-García, L. Pancheri, M. Perenzoni, R. del Río, O. Guerra Vinuesa, and A. Rodríguez-Vázquez: “Characterization-Based Modeling of Retriggering and Afterpulsing for Passively Quenched CMOS SPADs”. *IEEE Sensors Journal*, pp. 5700-5709, Vol. 19, No. 14, 2019. (DOI: 10.1109/JSEN.2019.2903937)
Q2 – Impact Factor: 3.073 (2019) – Ranking: 18/64 in JCR (Instruments and Instrumentation)
2. F.D.V.R. Oliveira, J.G.R.C. Gomes, J. Fernández-Berni, R. Carmona-Galán, R. del Río, and A. Rodríguez-Vázquez: “Gaussian Pyramid: Comparative Analysis of Hardware Architectures”. *IEEE Trans. on Circuits and Systems - I: Regular Papers (Special Issue on IoT)*, Vol. 64, No. 9, pp. 2308-2321, Sep. 2017. (DOI: 10.1109/TCSI.2017.2709280)
Q2 – Impact Factor: 2.823 (2017) – Ranking: 74/260 in JCR (Electrical and Electronic Eng.)
3. J. Fernández-Berni, R. Carmona Galán, R. del Río, and A. Rodríguez-Vázquez: “Bottom-up Performance Analysis of Focal-plane Mixed-signal Hardware for Viola-Jones Early Vision Tasks”. *International*

- Journal of Circuit Theory and Applications*, Vol. 43, No. 8, pp. 1063-1079, Aug. 2015. (DOI: 10.1002/cta.1996)
Q3 – Impact Factor: 1.179 (2015) – Ranking: 138/257 in JCR (Electrical and Electronic Eng.)
4. J. Fernández-Berni, R. Carmona-Galán, R. del Río, and A. Rodríguez-Vázquez: “High dynamic range adaptation for ROI tracking based on reconfigurable concurrent dual sensing”. *IET Electronics Letters*, Vol. 50, No. 24, pp. 1832-1834, Nov. 2014. (DOI: 10.1049/el.2014.3136)
Q3 – Impact Factor: 1.068 (2014) – Ranking: 147/249 in JCR (Electrical and Electronic Eng.)
 5. J. Fernández-Berni, R. Carmona-Galán, R. del Río, R. Kleihorst, W. Philips, and A. Rodríguez-Vázquez: “Focal-Plane Sensing-Processing: A Power-Efficient Approach for the Implementation of Privacy-Aware Networked Visual Sensors”. *Sensors*, Vol. 14, pp. 15203-15226, 2014. (DOI: 10.3390/s140815203)
Q1 – Impact Factor: 2.245 (2014) – Ranking: 10/56 in JCR (Instruments and Instrumentation)
 6. A. Morgado, R. del Río, and J.M. de la Rosa: “High-Efficiency Cascade $\Sigma\Delta$ Modulators for the Next Generation Software-Defined-Radio Mobile Systems”. *IEEE Trans. on Instrumentation and Measurement*, Vol. 61, No. 11, pp. 2860-2869, Nov. 2012. (DOI: 10.1109/TIM.2012.2200394)
Q2 – Impact Factor: 3.067 (2012) – Ranking: 25/57 in JCR (Instruments and Instrumentation)
 7. A. Morgado, R. del Río, J.M. de la Rosa, R. Castro-López, and B. Pérez-Verdú: “A 0.13-um CMOS Adaptive Sigma-Delta Modulator for Triple-Mode GSM/Bluetooth/UMTS Applications”. *Microelectronics Journal*, Vol. 41, pp. 277-290, 2010. (DOI: 10.1016/j.mejo.2010.03.004)
Q3 – Impact Factor: 0.789 (2010) – Ranking: 152/247 in JCR (Electrical and Electronic Eng.)
 8. R. Castro-López, A. Morgado, O. Guerra, R. del Río, J.M. de la Rosa, B. Pérez-Verdú, and F.V. Fernández: “Systematic Top-Down Design of Reconfigurable $\Sigma\Delta$ Modulators for Multi-Standard Transceivers”. *Analog Integrated Circuits and Signal Processing*, Vol. 58, pp. 227-241, March 2009. (DOI: 10.1007/s10470-007-9122-0)
Q4 – Impact Factor: 0.408 (2009) – Ranking: 188/246 in JCR (Electrical and Electronic Eng.)
 9. A. Morgado, J.M. de la Rosa, and R. del Río: “Hybrid Continuous-Time/Discrete-Time Cascade $\Sigma\Delta$ Modulator with Adaptive Inter-Stage Resonation.” *IET Electronics Letters*, Vol. 45, No. 5, pp. 251-252, Feb. 2009. (DOI: 10.1109/ISCAS.2009.5118246)
Q3 – Impact Factor: 0.970 (2009) – Ranking: 124/246 in JCR (Electrical and Electronic Eng.)
 10. J.M. de la Rosa, R. Castro-López, A. Morgado, E.C. Becerra-Alvarez, R. del Río, F.V. Fernández, and B. Pérez-Verdú: “Adaptive CMOS Analog Circuits for 4G Mobile Terminals - Review and State-of-the-Art Survey”. *Microelectronics Journal*, Vol. 40, pp. 156-176, Jan. 2009. (DOI: 10.1016/j.mejo.2008.07.001)
Q3 – Impact Factor: 0.778 (2009) – Ranking: 145/246 in JCR (Electrical and Electronic Eng.)
 11. A. Morgado, V.J Rivas, R. del Río, R. Castro-López, F.V. Fernández, and J.M. de la Rosa: “Behavioral Modeling, Simulation and Synthesis of Multi-Standard RF Transceivers in MATLAB/SIMULINK”. *Integration, the VLSI Journal*, Vol. 41, pp. 269-280, Feb. 2008. (DOI: 10.1016/j.vlsi.2007.07.001)
Q4 – Impact Factor: 0.463 (2008) – Ranking: 173/229 in JCR (Electrical and Electronic Eng.)
 12. A. Morgado, R. del Río, and J.M. de la Rosa: “Resonance-based Cascade $\Sigma\Delta$ Modulator for Broadband Low-Voltage A/D Conversion”. *IET Electronics Letters*, Vol. 44, No. 2, pp. 97-99, Jan. 2008. (DOI: 10.1049/el:20083249)
Q2 – Impact Factor: 1.140 (2008) – Ranking: 108/229 in JCR (Electrical and Electronic Eng.)
 13. A. Morgado, R. del Río, and J.M. de la Rosa: “A New Cascade $\Sigma\Delta$ Modulator for Low-voltage Wideband Applications”. *IET Electronics Letters*, Vol. 43, No. 17, pp. 910-911, August 2007. (DOI: 10.1049/el:20071454)

Q2 – Impact Factor: 1.009 (2007) – Ranking: 86/227 in JCR (Electrical and Electronic Eng.)

14. J.M. de la Rosa, S. Escalera, B. Pérez-Verdú, F. Medeiro, O. Guerra, R. del Río, and A. Rodríguez-Vázquez: “A CMOS 110-dB@40-kS/s Programmable-Gain, Chopper-Stabilized Third-Order 2-1 Cascade Sigma-Delta Modulator for Low-Power, High-Linearity Automotive Sensor ASICs”. *IEEE Journal of Solid-State Circuits*, Vol. 40, No. 11, pp. 2246-2264, Nov. 2005. (DOI: 10.1109/JSSC.2005.857356)

Q1 – Impact Factor: 1.969 (2005) – Ranking: 30/208 in JCR (Electrical and Electronic Eng.)

15. J. Ruiz-Amaya, J.M. de la Rosa, F.V. Fernández, F. Medeiro, R. del Río, B. Pérez-Verdú, and A. Rodríguez-Vázquez: “High-Level Synthesis of Switched-Capacitor, Switched-Current and Continuous-Time $\Sigma\Delta$ Modulators Using SIMULINK-based Time-Domain Behavioral Models”. *IEEE Trans. on Circuits and Systems - I: Regular Papers*, Vol. 51, No. 9, pp. 1795-1810, Sep. 2005. (DOI: 10.1109/TCSI.2005.852479)

Q2 – Impact Factor: 1.252 (2005) – Ranking: 57/208 in JCR (Electrical and Electronic Eng.)

16. F. Medeiro, R. del Río, J.M. de la Rosa, B. Pérez-Verdú, and A. Rodríguez-Vázquez: “Architectures and Design Considerations for Wireline $\Sigma\Delta$ Modulators Beyond ADSL”. *Measurement (special issue: ADC Modelling and Testing—8th Workshop on ADC Modelling and Testing)*, Vol. 37, No. 4, pp. 328-343, June 2005. (DOI: 10.1016/j.measurement.2005.03.005)

Q3 – Impact Factor: 0.413 (2005) – Ranking: 39/52 in JCR (Instruments and Instrumentation)

17. J.M. de la Rosa, B. Pérez-Verdú, F. Medeiro, R. del Río, and A. Rodríguez-Vázquez: “Analysis of Error Mechanisms in Switched-Current Sigma-Delta Modulators”. *Analog Integrated Circuits and Signal Processing*, Vol. 38, pp. 175-201, 2004. (DOI: 10.1023/B:ALOG.0000011167.24521.82)

Q4 – Impact Factor: 0.207 (2004) – Ranking: 172/209 in JCR (Electrical and Electronic Eng.)

18. R. del Río, J.M. de la Rosa, B. Pérez-Verdú, M. Delgado-Restituto, R. Domínguez-Castro, F. Medeiro, and A. Rodríguez-Vázquez: “Highly Linear 2.5-V CMOS $\Sigma\Delta$ Modulator for ADSL+,” *IEEE Trans. on Circuits and Systems - I: Regular Papers*, Vol. 51, No.1, pp. 47-62, Jan. 2004. (DOI: 10.1109/TCSI.2003.821308)

Q2 – Impact Factor: 0.933 (2004) – Ranking: 73/209 in JCR (Electrical and Electronic Eng.)

19. O. Guerra, C.M. Domínguez-Matas, S. Escalera, J.M. García-González, G. Liñán, R. del Río, M. Delgado-Restituto, and A. Rodríguez-Vázquez: “A Modem in CMOS Technology for Data Communication on the Low-Voltage Power Line”. *Integration, the VLSI Journal*, Vol. 36, No. 4, pp. 229-236, Nov. 2003. (DOI: 10.1016/j.vlsi.2003.09.007)

Q3 – Impact Factor: 0.480 (2003) – Ranking: 130/205 in JCR (Electrical and Electronic Eng.)

20. J.M. de la Rosa, B. Pérez-Verdú, F. Medeiro, R. del Río, and A. Rodríguez-Vázquez: “Practical Study of Idle Tones in 2nd-Order Bandpass Sigma-Delta Modulators”. *Microelectronics Journal*, Vol. 33, pp. 1004-1008, Nov. 2002. (DOI: 10.1016/S0026-2692(02)00049-6)

Q3 – Impact Factor: 0.457 (2002) – Ranking: 115/203 in JCR (Electrical and Electronic Eng.)

21. J.M. de la Rosa, B. Pérez-Verdú, F. Medeiro, R. del Río, and A. Rodríguez-Vázquez: “Switched-Current Bandpass Sigma-Delta Modulators for AM Digital Radio Receivers”. *Microelectronics Journal*, Vol. 32, pp. 1017-1033, Dec. 2001. (DOI: 10.1016/S0026-2692(01)00082-9)

Q3 – Impact Factor: 0.333 (2001) – Ranking: 125/200 in JCR (Electrical and Electronic Eng.)

22. J.M. de la Rosa, B. Pérez-Verdú, R. del Río, and A. Rodríguez-Vázquez: “A CMOS 0.8 μ m Transistor-Only 1.63MHz Switched-Current Bandpass $\Sigma\Delta$ Modulator for AM Signal A/D Conversion”. *IEEE Journal of Solid-State Circuits*, Vol. 35, No. 8, pp. 1220-1226, Aug. 2000. (DOI: 10.1109/4.859514)

Q1 – Impact Factor: 1.544 (2000) – Ranking: 21/204 in JCR (Electrical and Electronic Eng.)

23. R. del Río, F. Medeiro, B. Pérez-Verdú, and A. Rodríguez-Vázquez: “Reliable analysis of settling errors in SC integrators: application to $\Sigma\Delta$ modulators”. *IEE Electronics Letters*, Vol. 36, No. 6, pp. 503-504, March 2000. (DOI: 10.1049/el:20000443)
Q2 – Impact Factor: 0.931 (2000) – Ranking: 52/204 in JCR (Electrical and Electronic Eng.)
24. G. Liñán-Cembrano, R. del Río-Fernández, R. Domínguez-Castro, and A. Rodríguez-Vázquez: “Robust high-accuracy high-speed continuous-time CMOS current comparator”. *IEE Electronics Letters*, Vol. 33, No. 25, pp. 2082-2084, Dec. 1997. (DOI: 10.1049/el:19971332)
Q1 – Impact Factor: 1.005 (1997) – Ranking: 33/193 in JCR (Electrical and Electronic Eng.)

Other Journals

1. A. Morgado, J.M. de la Rosa, R. del Río, F. Medeiro, B. Pérez-Verdú, F.V. Fernández, and A. Rodríguez-Vázquez: “An Approach to the Design of Multistandard $\Sigma\Delta$ Modulators”. *WSEAS Trans. on Circuits and Systems*, vol. 4, n. 12, pp. 1811-1818, Dec. 2005.

International Conference Papers

1. P. Jiménez-Fernández, A. Rodríguez-Pérez, E. Prefasi, Ó. Guerra and R. del Río, “A Novel Design Methodology for Low-Power, Low-Noise LC-Based Digital-Controlled Oscillators,” *2022 29th IEEE International Conference on Electronics, Circuits and Systems (ICECS)*, 2022, pp. 1-4, doi: 10.1109/ICECS202256217.2022.9970923.
2. P. Jimenez-Fernandez, O. Guerra, R. del Rio, A. Rodriguez-Perez and E. Prefasi, “A low-power 26.56-GHz LC-based DCO for multi-gigabit communication systems,” *SMACD / PRIME 2021; International Conference on SMACD and 16th Conference on PRIME*, 2021, pp. 1-4.
3. A. García-Rodríguez, R. Rodríguez-Sakamoto, J. Fernández-Berni, R. del Río, J. Marín, M. Baena, J. Bustamante, R. Carmona-Galán, and A. Rodríguez-Vázquez: “Live Demonstration: Low-Power Low-Cost Cyber-Physical System for Bird Monitoring”. Live Demonstration at 2018 IEEE Intl. Symp. on Circuits and Systems (ISCAS 2018). Florence, Italy. May 27-30, 2018. (DOI: 10.1109/ISCAS.2018.8351434)
4. A. Morgado, R. del Rio, and J.M. de la Rosa: “Design of a power-efficient widely-programmable Gm-LC band-pass sigma-delta modulator for SDR”. *Proc. of the 2016 IEEE Intl. Symp. on Circuits and Systems (ISCAS 2016)*, pp. 53-56. Montreal, Canada, 2016. (DOI: 10.1109/ISCAS.2016.7527168)
5. R. Fiorelli, O. Guerra, R. del Rio, and A. Rodríguez-Vázquez: “Effects of capacitors non-idealities in uneven split-capacitor array SAR ADCs”. *Proc. of the 2015 Conf. on Design of Circuits and Integrated Systems (DCIS 2015)*, pp. 219-222. Estoril, Portugal. Nov. 25-27, 2015. (DOI: 10.1109/DCIS.2015.7388595)
6. A. Morgado, R. del Río, and J.M. de la Rosa: “Energy efficient transconductor for widely programmable analog circuits and systems”. *Proc. of the 2015 IEEE Intl. Symp. on Circuits and Systems (ISCAS 2015)*, pp. 1814-1817. Lisbon, Portugal, 2015. (DOI: 10.1109/ISCAS.2015.7169008)
7. J. Fernández-Berni, R. Carmona-Galán, R. del Río, R. Kleihorst, W. Philips, and A. Rodríguez-Vázquez: “Real-time Single-exposure ROI-driven HDR Adaptation based on Focal-plane Reconfiguration”. *Proc. of the "Real-Time Image and Video Processing 2015" Conf. at IS&T/SPIE Electronic Imaging 2015*. San Francisco, California, United States. February 8-12, 2015. (DOI: 10.1117/12.2078356)
8. D. Malagón, J.M. de la Rosa, R. del Río, G. Leger: “Single Event Transients trigger instability in Sigma-Delta Modulators”. *Proc. of the XXIX Conference on Design of Circuits and Integrated Systems (DCIS 2014)*. Madrid, Spain. November 26-28, 2014.

9. J. Fernández-Berni, R. Carmona Galán, R. del Río, A. Rodríguez-Vázquez: “A QVGA Vision Sensor with Multi-functional Pixels for Focal-Plane Programmable Obfuscation”. Proc. of the Intl. Conf. on Distributed Smart Cameras (ICDSC 2014). Venezia, Italy. November 4-7, 2014.
10. J. Fernández-Berni, R. Carmona-Galán, R. del Río, R. Kleihorst, W. Philips, and A. Rodríguez-Vázquez: “Demo: A Prototype Vision Sensor for Real-time Focal-plane Obfuscation through Tunable Pixelation”. Proc. of the Intl. Conf. on Distributed Smart Cameras (ICDSC 2014). Venezia, Italy. November 4-7, 2014.
11. M. Moreno-García, R. del Río, O. Guerra, A. Rodríguez-Vázquez: “5x5 SPAD Matrices for the Study of the Trade-offs between Fill Factor, Dark Count Rate and Crosstalk in the Design of CMOS Image Sensors”. Proc. of the 10th Conf. on Ph.D. Research in Microelectronics and Electronics (PRIME 2014). Grenoble, France. June 30-July 3, 2014. (***) GOLDEN LEAF AWARD (***)
12. J. Fernández-Berni, R. Carmona, R. del Río, J.A. Leñero-Bardallo, Á. Rodríguez-Vázquez: “Smart Imaging for Power-efficient Extraction of Viola-Jones Local Descriptors”. Proc. of the “Image Sensors and Imaging Systems 2014” Conf. at IS&T/SPIE Electronic Imaging 2014. San Francisco, California, EE.UU. February 2-6, 2014. (***) BEST PAPER AWARD (***)
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National Conference Papers

1. Antonio J. Acosta, Rocío del Río, and Ángel Rodríguez-Vázquez: “La Simulación Eléctrica en el Trabajo Académicamente Dirigido como Vehículo Docente para la Enseñanza de la Electrónica”. Actas del VIII Congreso de Tecnologías Aplicadas a la Enseñanza de la Electrónica (TAAE 2008) (ISBN 978-84-7733-628-0). Zaragoza, Spain. Jul. 2-4, 2008.
2. B. Pérez-Verdú, R. del Río, J.M. de la Rosa, O. Guerra, F.V. Fernández, F. Medeiro, and A. Rodríguez-Vázquez: “Diseño de Convertidores A/D de Alta Resolución en Tecnologías Submicrométricas”. Actas del Seminario del Programa Nacional de Tecnologías de la Información y las Comunicaciones, pp. 77-81. Almagro, Spain. Nov. 21-24, 2000.

Research Projects

1. “HEROIC: High Efficient Read Out Circuits”, Project 101102939, EDF-2021-SENS-R-2
 Funding entity: European Defence Fund (EDF), European Union
 Participating entities: Lynred (France), AIM (Germany), Xenics (Belgium), CEA (France), IDEAS (Norway), Univ. de Sevilla, US (Spain), INDRA (Spain), Kongsberg (Norway), PCO (Poland), Miltech (Greece)
 Project Coordination: Lynred (France)
 Principal Investigator (PI) at US: Ángel Rodríguez-Vázquez (US, Spain)
 Budget: 18.106.271,00 € (US: 771.625,00 €)
 Duration: 01/01/2023 - 31/12/2026
2. “ULTIMATE: smart mULTI-sensor eMbedded platform for advanced nATurE monitoring”, TED2021-131835B-I00
 Funding entity: Ministerio de Ciencia e Innovación, Spain
 Participating entities: IMSE-CNM (CSIC, US)
 Principal Investigator (PI): Jorge Fernández Berni, Ricardo Carmona Galán
 Budget: 186.530,00 €
 Duration: 01/12/2022 – 30/11/2024
3. “SEMIoTICS: advanced SEnsing Modalities for intelligent IoT Components and Systems”, PID2021-128009OB-C31

- Funding entity: Ministerio de Ciencia e Innovación, Spain
 Participating entities: IMSE-CNM (CSIC, US)
 Principal Investigator (PI): Ricardo Carmona Galán, Jorge Fernández Berni
 Budget: 175.000,00 €
 Duration: 01/09/2022 – 31/08/2025
4. “SUMHAL: Sustainability for Mediterranean Hotspots in Andalusia integrating LifeWatch ERIC”
 WP4: “Combining field data, citizen science, and IoT to monitor anthropogenic impacts on Andalusian biodiversity and society”
 Funding entity: LifeWatch ERIC, European Union
 Participating entities: RJB (CSIC), IPE (CSIC), EBD (CSIC), EEZ (CSIC), EZZA (CSIC)
 WP4: EBD (CSIC), IMSE-CNM (CSIC, US)
 Principal Investigator (PI): Francisco Pando, RJB (CSIC), Begoña García, IPE (CSIC)
 WP4: Javier Bustamante, EBD (CSIC)
 Budget: WP1-9: 13.375.825,23 € (WP4: 1.996.319,00 €)
 Duration: 01/04/2021 - 30/06/2023
5. “Looking Beyond Images: Low-Power Sensor Architectures for 2D/3D Imaging and Vision”, N00014-19-1-2156
 Funding entity: Office of Naval Research (ONR), USA
 Participating entities: IMSE-CNM (CSIC, US)
 Principal Investigator (PI): Ángel Rodríguez Vázquez
 Budget:
 Duration: 01/03/2019 - 28/02/2023
6. “ENVISAGE: Enabling Vision Technologies for Integrated Intelligent Transportation”, RTI2018-097088-B-C31
 Funding entity: Ministerio de Ciencia, Innovación y Universidades, Spain
 Participating entities: IMSE-CNM (CSIC, US), USC, Univ. Politéc. de Cartagena
 Principal Investigator (PI): Ricardo Carmona Galán, Jorge Fernández Berni
 Budget: 209.565,00 €
 Duration: 01/01/2019 - 30/06/2022
7. “Smart CIS3D: Sensores de imágenes inteligentes para captación de tiempos de vuelo y análisis embebido de imágenes 3D”, P12-TIC-2338
 Funding entity: Proyecto de Excelencia, Junta de Andalucía, Spain
 Participating entities: Univ. de Sevilla, AnaFocus
 Principal Investigator (PI): Ángel Rodríguez Vázquez
 Budget: 239.894,00 €
 Duration: 30/01/2014 - 30/06/2019
8. “FENIX-SDR: FIExible Nanometer CMOS Analog Integrated Circuits for the NeXt Generation of Software-Defined-Radio Mobile Terminals”, TEC2010-14825
 Funding entity: Ministerio de Ciencia e Innovación, Spain
 Participating entities: Univ. de Sevilla
 Principal Investigator (PI): José Manuel de la Rosa Utrera
 Budget: 195.600,00 €
 Duration: 01/01/2011 - 31/03/2015

9. “Design of High-Performance Heterogeneous Ultra-High Speed Cellular Sensor-Processors for Multi-Spectral Light Sensing”, BAA-11-001
Funding entity: Office of Naval Research (ONR), USA
Participating entities: Univ. de Sevilla
Principal Investigator (PI): Ángel Rodríguez Vázquez
Budget: 346.000,00 €
Duration: 01/01/2011 - 31/12/2013

10. “PLATFORM4G: Desarrollo de una Plataforma de Diseño de Sistemas Adaptables para Sistemas de Telecomunicaciones de Cuarta Generación”, TIC-2532
Funding entity: Sec. Gral. de Universidades, Investigación y Tecnología, Junta de Andalucía, Spain
Participating entities: Univ. de Sevilla, Spain
Principal Investigator (PI): Francisco V. Fernández Fernández
Budget: 303.000,00 €
Duration: 19/12/2007 - 18/12/2010

11. “Secured Platform for Intelligent and Reconfigurable Voice and Data Terminals (SPIRIT)”
Funding entity: MEDEA+ (2A101), European Commission
Participating entities: AnaFocus, Spain / ATMEL, France / EADS, France / EXCEM, France / France Telecom R&D, France / HELIC, Greece / Telefónica I+D, Spain / Institute CEA/LETI, France / IMSE-CNM, Spain
Principal Investigator (PI): Manuel Delgado Restituto
Budget: 215.000,00 €
Duration: 01/06/2006 - 31/05/2009

12. “Entrefases Analógico-Digitales Reconfigurables para la Convergencia de Sistemas de Comunicaciones Inalámbricos y Alámbricos (WW.CON.COM)”
Funding entity: Mto. Ciencia y Tecnología - MCYT (TEC2004-01752/MIC), Spain
Participating entities: IMSE-CNM, CSIC
Principal Investigator (PI): Francisco V. Fernández Fernández
Budget: 203.320,00 €
Duration: 13/12/2004 - 12/12/2007

13. “Multi-Standard Integrated Devices for Broadband DSL Access and In-home Power Line Communications (MIDAS)”
Funding entity: MEDEA+ (A110), European Commission
Participating entities: ST Microelectronics, Alcatel, Thomson, France Telecom, KUL, IMSE-CNM, Lund Institute of Technology, Target Compiler Technologies, SEBA Service, Eriksson, IMEC, DS2, Upside Labs AB, LEA S.A., Veyado
Principal Investigator (PI): Manuel Delgado Restituto
Budget: 232.723,00 €
Duration: 01/07/2003 - 01/12/2005

14. “TAMES-2: Testability of Analog Macrocells Embedded into System-on-Chip”, IST 2001-34283
Funding entity: European Commission
Participating entities: Dolphin Integration, France / AMI Semiconductor, Belgium / IMSE-CNM, Spain / Lancaster University, UK
Principal Investigator (PI): Belén Pérez Verdú
Budget: 311.786,00 €

Duration: 01/03/2002 - 31/08/2004

15. “Diseño para Reutilización de Convertidores Analógico-Digitales de Alta Velocidad y Alta Resolución (ADAVERE)”
 Funding entity: Dir. Gral. de Investigación Mto. Ciencia y Tecnología - MICYT (TIC2001-0929), Spain
 Participating entities: IMSE-CNM, Spain
 Principal Investigator (PI): Francisco V. Fernández Fernández
 Budget: 232.170,98 €
 Duration: 28/12/2001 - 27/12/2004

16. “Technical Coordination and Dissemination on Mixed-Signal Design in Deep Submicron Technologies (MIXMODEST)”, IC&D EP 29261
 Funding entity: European Commission, FP 4
 Participating entities: Alcatel Microelectronics, Belgium / Katholieke Universiteit Leuven (KUL), Belgium / IMSE-CNM, Spain / Univ. di Pavia (UniPav), Italy / Instituto Superior Técnico (IST), Portugal / ChipIdea, Portugal
 Principal Investigator (PI): Ángel Rodríguez Vázquez
 Budget: 24.000,00 €
 Duration: 01/09/1998 - 25/06/2002

17. “Mixed Mode in Deep Submicron Technology (MIXMODEST)”, ESPRIT IV Project 29261
 Funding entity: European Commission, FP 4
 Participating entities: Alcatel Microelectronics, Belgium / Katholieke Universiteit Leuven (KUL), Belgium / IMSE-CNM, Spain / Univ. di Pavia (UniPav), Italy / Instituto Superior Técnico (IST), Portugal / ChipIdea, Portugal
 Principal Investigator (PI): Ángel Rodríguez Vázquez
 Budget: 265.000,00 €
 Duration: 01/09/1998 - 31/08/2001

18. “Diseño para Convertidores A/D de Alta Resolución en Tecnologías Submicrométricas”, BAA-11-001
 Funding entity: Comisión Interministerial de Ciencia y Tecnología (TIC97-0580), Spain
 Participating entities: IMSE-CNM, CSIC
 Principal Investigator (PI): Belén Pérez Verdú
 Budget: 101.450,84 €
 Duration: 01/08/1997 - 31/07/2000

Industrial Contracts

1. “Análisis y Diseño de ADCs de Baja Resolución para SerDes de Alta Velocidad en Nodos CMOS Submicrométricos Avanzados”, 4438/0076
 Type of contract: Contrato 68/83
 Funding entity: Knowledge Development for Rugged Optical Communications, S.L. (KDROF), Spain
 Participating entities: Univ. de Sevilla
 Principal Investigator (PI): Óscar Guerra Vinuesa
 Budget: 15.149,20 €
 Duration: 15/03/2022 – 14/12/2022

2. “Análisis de viabilidad de front-ends analógicos en aplicaciones multi-gigabit”, 3819/1036

Type of contract: Contrato 68/83
Funding entity: Knowledge Development for POF, S.L. (KDPOF), Spain
Participating entities: Univ. de Sevilla
Principal Investigator (PI): Rocío del Río Fernández
Budget: 14.520,00 €
Duration: 21/02/2020 – 20/02/2021

3. “Diseño de un Analog-Front-End (AFE) de alta velocidad para aplicaciones de domótica sobre fibra de plástico”, 2344/0685
Type of contract: Contrato 68/83
Funding entity: Knowledge Development for POF, S.L. (KDPOF), Spain
Participating entities: Univ. de Sevilla
Principal Investigator (PI): Óscar Guerra Vinuesa, Ángel Rodríguez Vázquez
Budget: 108.900,00 €
Duration: 01/07/2014 – 09/07/2015
4. “Design of a Sigma-Delta Modulator for ADSL6 (ADSL6-ALCATEL)”
Type of contract: Contrato 68/83
Funding entity: Alcatel Microelectronics NV, Belgium / STMicroelectronics NV, Belgium
Participating entities: Instituto de Microelectrónica de Sevilla (IMSE-CNM, CSIC)
Principal Investigator (PI): Ángel Rodríguez Vázquez
Budget: 161.000,00 €
Duration: 01/02/2001 - 31/07/2003
5. “Modem FSK para Transmisión de Datos por Líneas de Baja Tensión”
Type of contract: Contrato 68/83
Funding entity: SHS Consultores, S.L., Spain
Participating entities: Instituto de Microelectrónica de Sevilla (IMSE-CNM, CSIC)
Principal Investigator (PI): Ángel Rodríguez Vázquez
Budget: 30.673,85 €
Duration: 25/04/1997 - 31/12/1999

Patents

- A. Morgado García de Polavieja, R. del Río Fernández, J.M. de la Rosa Utrera. “Transconductor programable capaz de proporcionar una alta eficiencia energética”. Universidad de Sevilla (85%), CSIC (15%). No. P201400697, 25-AUG-2014. OEPM (Spain).
- J. Fernández Berni, Á. Rodríguez Vázquez, R. del Río Fernández, R. Carmona Galán: “Hardware para cómputo de la imagen integral”. Universidad de Sevilla (80%), CSIC (20%). No. P201400224, 20-MAR-2014. OEPM (Spain).

Awards

- Award for the best paper of the month of July 2019 in the "Scientific Paper of the Month Contest" awarded by the Faculty of Physics, Univ. of Seville, to M. Moreno-García, L. Pancheri, M. Perenzoni,

- R. del Río, O. Guerra Vinuesa, and A. Rodríguez-Vázquez for the paper “Characterization-Based Modeling of Retriggering and Afterpulsing for Passively Quenched CMOS SPADs” published in *IEEE Sensors Journal* (DOI: 10.1109/JSEN.2019.2903937).
- FrankEinstein Award for “Deluxe Tutoring”, awarded by the students of the Faculty of Physics, University of Seville, 2018.
 - Award in the “II Entrepreneurship Ideas Competition 2017” of the Faculty of Physics, Univ. of Seville. Award to Jorge Fernández Berni and Rocío del Río Fernández for the project “Modular Sensory System for Environmental Monitoring” in the Award modality for the “Best idea of entrepreneurship with social impact”. November 24, 2017.
 - FrankEinstein Award for “Best Teacher”, awarded by the students of the Faculty of Physics, University of Seville, 2017.
 - “Best Paper Award” in the *Image Sensors and Imaging Systems 2014 Conf., IS&T/SPIE Electronic Imaging 2014* to the paper “Smart Imaging for Power-efficient Extraction of Viola-Jones Local Descriptors”. (DOI: 10.1117/12.2042384)
 - “Golden Leaf Award” in the 10th Conf. on Ph.D. Research in Microelectronics and Electronics (PRIME 2014) to the paper “5x5 SPAD Matrices for the Study of the Trade-offs between Fill Factor, Dark Count Rate and Crosstalk in the Design of CMOS Image Sensors”. (DOI: 10.1109/PRIME.2014.6872752)
 - “Diploma for Teaching Excellence” awarded by the University of Seville in recognition of the teaching activity developed during the academic year obtained in 2002/03, 2003/04, 2005/06.

Direction of Theses

PhD Theses

1. Title: “Implementación de SerDes de alta velocidad para transceptores ópticos de hasta 25 Gbps para la industria de la automoción”
 Author: Pablo Jiménez Fernández
 Advisor: Óscar Guerra (US), Rocío del Río (US), Alberto Rodríguez-Pérez (KDPOF)
 Degree: Industrial Doctorate at KDPOF S.L. / Doctor of Philosophy. Univ. de Sevilla (US), Spain
 Expected defense date: mid 2025 (on-going thesis)
2. Title: “Modeling , Characterization, and Physical Design of CMOS SPADs for Smart Sensors”
 Author: Manuel Moreno García
 Advisor: Rocío del Río, Óscar Guerra
 Degree: Doctor of Philosophy. Univ. de Sevilla, Spain
 Expected defense date: mid 2023 (on-going thesis)
3. Title: “Reconfigurable Sigma-Delta Modulators for Multi-Standard Wireless Communications in Nanometer CMOS Technologies”
 Author: Alonso Morgado García de Polavieja
 Advisor: José Manuel de la Rosa, Rocío del Río
 Degree: Doctor of Philosophy. Univ. de Sevilla, Spain
 Defense date: February 2011

Master Theses

1. Title: “Analysis and Design of Low-Resolution ADCs for High-Speed SerDes in Advanced Deep-Submicron CMOS”
Author: Pedro Barba Lozano
Advisors: Óscar Guerra, Rocío del Río
Degree: Master in Microelectronics. Univ. de Sevilla (US), Spain
Defense date: December 2022
2. Title: “Sistemas de imagen 3D basados en la técnica de tiempo de vuelo (ToF)”
Author: Gema Vallés Santiago
Advisors: Rafael Domínguez Castro (Teledyne Anafocus), Rocío del Río Fernández (US)
Degree: Master in Microelectronics. Univ. de Sevilla (US), Spain
Defense date: December 2021
3. Title: “Analysis and design of inductors and oscillators based on LC tanks for multi-gigabit applications in deep submicron CMOS technologies”
Author: Pablo Jiménez Fernández
Advisors: Rocío del Río (US), Óscar Guerra (US), Alberto Rodríguez-Pérez (KDPOF)
Degree: Master in Microelectronics. Univ. de Sevilla, Spain
Defense date: December 2020
4. Title: “Cyber-Physical Systems for Remote Animal Monitoring Automated birdsong recognition: A case study of *Falco Naumanni*”
Author: Carmen Lozano Pons
Advisors: Jorge Fernández-Berni, Rocío del Río
Degree: Master in Microelectronics. Univ. de Sevilla, Spain
Defense date: December 2020
5. Title: “CMOS-compatible diodes in Geiger mode with analog counting in a 150 nm CMOS technology”
Author: Sergio Moreno Martín
Advisors: Ángel Diéguez (UB), Rocío del Río (US)
Degree: Master in Microelectronics. Univ. de Sevilla, Spain
Defense date: December 2020
6. Title: “Configurable current limitation concept for automotive body power applications”
Author: David Fernández Juanes
Advisors: Ioan-Alexandru Tranca (Infineon Technologies AG), Rocío del Río (US)
Degree: Master in Microelectronics. Univ. de Sevilla (US), Spain
Defense date: December 2018
7. Title: “Optimización arquitectural de convertidores A/D para comunicaciones de multi-Gbps”
Author: Manuel Álvarez Mora
Advisors: Rocío del Río, Óscar Guerra
Degree: Master in Microelectronics. Univ. de Sevilla, Spain
Defense date: September 2018
8. Title: “Estudio de arquitecturas de equalización digital embebida en receptores para comunicaciones de Gbps”
Author: Álvaro Díaz García
Advisors: Rocío del Río, Óscar Guerra
Degree: Master in Microelectronics. Univ. de Sevilla, Spain
Defense date: December 2017

9. Title: “Circuitos de Quenching para Diodos de Avalancha de Fotón Único (SPADs)”
Author: Manuel Moreno García
Advisors: Rocío del Río, Belén Pérez-Verdú
Degree: Master in Microelectronics. Univ. de Sevilla, Spain
Defense date: September 2011

Graduation Theses

1. Title: “Beam Loss Monitors in the Large Hadron Collider”
Author: Sara Morales Vigo
Advisors: Jorge Fernández-Berni, Rocío del Río
Degree: Bachelor in Physics. Univ. de Sevilla, Spain
Defense date: July 2020
2. Title: “Estudio sobre la Física e Ingeniería de Materiales aplicadas en la fabricación de transistores Gate-All-Around”
Author: Gloria Patricia Moreno Martínez
Advisors: Rocío del Río, Jorge Fernández-Berni,
Degree: Double Bachelor Degree in Physics and Materials Engineering. Univ. de Sevilla, Spain
Defense date: July 2020
3. Title: “Análisis de circuitos analógicos para efectos en guitarra eléctrica”
Author: Alejandro V. Rejón Mata
Advisors: Rocío del Río
Degree: Bachelor in Physics. Univ. de Sevilla, Spain
Defense date: September 2019
4. Title: “A study on fundamental physical limitations of CMOS technologies”
Author: Rita González Márquez
Advisors: Jorge Fernández-Berni, Rocío del Río
Degree: Bachelor in Physics. Univ. de Sevilla, Spain
Defense date: July 2019
5. Title: “Implementación de un Sistema Sensorial para Plataforma Robótica”
Author: Arturo Mejías Marín
Advisors: Jorge Fernández-Berni, Rocío del Río
Degree: Bachelor in Physics. Univ. de Sevilla, Spain
Defense date: September 2018
6. Title: “Desarrollo de un sistema sensor de bajo consumo de potencia y reducido coste basado en Arduino”
Author: Adrián García Rodríguez
Advisors: Jorge Fernández-Berni, Rocío del Río
Degree: Bachelor in Physics. Univ. de Sevilla, Spain
Defense date: September 2017
7. Title: “Caracterización experimental y procedimientos de medida de diodos de avalancha de fotón único”
Author: Antonio José López Angulo
Advisors: Rocío del Río
Degree: Bachelor in Physics. Univ. de Sevilla, Spain
Defense date: September 2016

8. Title: “Análisis, modelado y simulación de esquemas de lectura de arrays de fotomultiplicadores de silicio (SiPMs) basados en redes resistivas para aplicaciones de imagen médica”
Author: Gema Vallés Santiago
Advisors: Rocío del Río
Degree: Bachelor in Physics. Univ. de Sevilla, Spain
Defense date: December 2014
9. Title: “Diseño de un Modulador Sigma-Delta para Comunicación Multiestándar GSM/Bluetooth/UMTS/WLAN en una Tecnología CMOS de 0.13um”
Author: Alonso Morgado García de Polavieja
Advisors: José Manuel de la Rosa, Rocío del Río
Degree: Telecommunication Engineering. Univ. de Sevilla, Spain
Defense date: October 2005

Other Research/Academic Activities

Society Memberships

- IEEE Membership, 2000-present (SM’20, M’07, StM’00)
- Member of the IEEE Intl. Roadmap for Devices and Systems (IRDS) Community, 2020-present.
- Member of the IEEE Internet of Things (IoT) Community, 2018-present.
- Member of the IEEE Circuits and Systems Society (CASS), 2009-present.
- Member of the IEEE Solid-State Circuits Society (SSCS), 2007-present.

Conference Program and Organizing Committees

- Tutorials co-chair of IEEE Intl. Symposium on Circuits and Systems (ISCAS) in 2020.
- Publications co-chair of IEEE Intl. Conference on Electronics, Circuits, and Systems (ICECS) in 2012.
- Publications co-chair of IEEE European Solid-State Circuits Conference (ESSCIRC) in 2010.
- Tutorials co-chair of IEEE European Conference on Circuit Theory and Design (ECCTD) in 2007.
- Program Committee Member of the Conference on Design of Circuits and Integrated Systems (DCIS) in 2008, 2012, 2015.
- Session chair at the IEEE Intl. Symp. on Circuits and Systems (ISCAS) in 2020, at the IEEE Intl. Conf. on Electronics, Circuits, and Systems (ICECS) in 2012, at the IEEE European Conf. on Circuit Theory and Design (ECCTD) in 2007, at the Conf. on Design of Circuits and Integrated Systems (DCIS) in 2007, 2008.

Courses and Seminars

- *Electronic Resources and Useful Tools for Graduation Theses*. Faculty of Physics, University of Seville. (Duration: 1-2 hours). Taught in years 2016, 2017, 2018, 2019, 2021.
- *First RaMSiS Intensive Course on Sigma-Delta Converters — From Basics to State of the Art* (in collaboration with Prof. J.M. de la Rosa). Royal Institute of Technology (KTH), Stockholm, Sweden, April 23-27, 2007.

Juries in Competitions for Access to Academic Permanent Positions

- Official member of the jury
 Position: Profesor Titular de Universidad (Associate Professor)
 Area / Department: Electronics / Dept. of Electronics and Electromagnetism
 Institution: Univ. de Sevilla (US), Spain
 Official publication and code: BOE-A-2021-10546 (24/06/2021), Code “2/126/21”
 Date of competition: September 2021
 Elected candidate: Juan Antonio Leñero Bardallo
- Official member of the jury
 Position: Técnico Superior Especializado (Graduated Specialized Technician)
 Area / Department: Instituto de Microelectrónica de Sevilla
 Institution: Consejo Superior de Investigaciones Científicas (CSIC), Spain
 Official publication and code: BOE-A-2020-17363 (31/12/2020), Code “6155”, Programa “Diseño de Circuitos Micro y Nanoelectrónicos”
 Date of competition: Jan-Jul 2021
 Elected candidate: ---
- Official member of the jury
 Position: Profesor Titular de Universidad (Associate Professor)
 Area / Department: Electronics / Dept. of Electronics
 Institution: Univ. de Málaga (UMA), Spain
 Official publication and code: BOE number 154 on 28/06/2019, Code “010TUN19”
 Date of competition: October 2019
 Elected candidate: Óscar Oballe Peinado
- Official member of the jury
 Position: Profesor Titular de Universidad (Associate Professor)
 Area / Department: Electronics / Dept. of Electronics and Electromagnetism
 Institution: Univ. de Sevilla (US), Spain
 Official publication and code: BOE-A-2018-11724 (20/08/2018), Code “2/46/18”
 Date of competition: October 2018
 Elected candidate: Jorge Fernández Berni
- Official member of the jury
 Position: Profesor Contratado Doctor (Assistant Professor)
 Area / Department: Electronics / Dept. of Electronics and Electromagnetism
 Institution: Univ. de Sevilla (US), Spain
 Official publication and code: BOJA number 209 on 31/10/2017, Code “06/6/17”
 Date of competition: January 2018
 Elected candidate: Juan Antonio Leñero Bardallo
- Official member of the jury
 Position: Profesor Contratado Doctor (Assistant Professor)
 Area / Department: Electronics / Dept. of Electronics and Electromagnetism
 Institution: Univ. de Sevilla (US), Spain
 Official publication and code: BOJA number 209 on 31/10/2017, Code “06/7/17”
 Date of competition: December 2017
 Elected candidate: Jorge Fernández Berni
- Official member of the jury (Secretary)

Position: Profesor Titular de Universidad (Associate Professor)
 Area / Department: Electronics / Dept. of Electronics and Electromagnetism
 Institution: Univ. de Sevilla (US), Spain
 Official publication and code: BOE-A-2011-9566 (01/06/2011), Code “Electrónica-18”
 Date of competition: July 2011
 Elected candidate: Óscar Guerra Vinuesa

Thesis Juries and Committees

- Official member of the jury (Secretary)
 Title: *“Behavioral Modeling of CMOS SPADs Based on TCAD Simulations”*
 Candidate: Juan Manuel López Martínez
 Advisor: Ángel Rodríguez-Vázquez, Ricardo Carmona
 Degree: PhD degree. Univ. de Sevilla (US), Spain
 Defense date: January 2023
- Official member of the jury (President)
 Title: *“Analog-to-Digital Converters for Efficient Portable Devices”*
 Candidate: Sohail Asghar
 Advisor: José Manuel de la Rosa, Ivan O’Connell
 Degree: PhD degree. Univ. de Sevilla (US), Spain
 Defense date: March 2021
- Official member of the jury (Secretary)
 Title: *“Design of CMOS Digital Silicon Photomultipliers with ToF for Positron Emission Tomography”*
 Candidate: Franco Nahuel Bandi
 Advisor: Ricardo Carmona Galán, Ángel Rodríguez-Vázquez
 Degree: PhD degree. Univ. de Sevilla (US), Spain
 Defense date: May 2020
- Official member of the jury (Secretary)
 Title: *“Contribution to the design of Capacitance-to-Digital Converters for medium-resolution multi-standard consumer sensors in standard CMOS technology”*
 Candidate: Christopher Rogi
 Advisor: Enrique Prefasi / Tutor: Luis Hernández
 Degree: PhD degree. Univ. Carlos III de Madrid (UC3M), Spain
 Defense date: March 2020
- Official member of the jury (Secretary)
 Title: *“Digital Background Self-Calibration Technique for Compensating Transition Offsets in Reference-less Flash ADCs”*
 Candidate: Cristina Aledo González
 Advisor: Eduardo Peralías Macías
 Degree: PhD degree. Univ. de Sevilla (US), Spain
 Defense date: November 2019
- Official member of the jury (Secretary)
 Title: *“Contribución a la ecualización en sensores basados en modulación Sigma-Delta”*
 Candidate: Laura Conesa-Peraleja Ruano
 Advisor: Susana Patón
 Degree: PhD degree. Univ. Carlos III de Madrid (UC3M), Spain
 Defense date: June 2018

- External reviewer
 Title: *“A Contribution to the Characterization of Radiation-Induced Soft Errors in Sigma- Delta Modulators and SRAM Memories”*
 Candidate: Daniel Malagón Perriáñez
 Advisors: Sebastián Antonio Bota Ferragut, Gabriel Torrens Caldentey
 Degree: PhD degree. Universitat de les Illes Balears (UIB), Spain
 Defense date: January 2018
- Official member of the jury (Secretary)
 Title: *“Diseño de circuitos analógicos y de señal mixta con consideraciones de diseño físico y variabilidad”*
 Candidate: Antonio Toro Frías
 Advisors: Rafael Castro López, Francisco V. Fernández Fernández
 Degree: PhD degree. Univ. de Sevilla (US), Spain
 Defense date: September 2017
- Official member of the jury (President)
 Title: *“Time-Of-Flight Sensors in Standard CMOS Technologies”*
 Candidate: Julio Illade Quinteiro
 Advisors: Paula López Martínez, Víctor Manuel Brea Sánchez
 Degree: PhD degree. Univ. de Santiago de Compostela (USC), Spain
 Defense date: April 2017
- Official member of the jury (Secretary)
 Title: *“Diseño de Circuitos Integrados en Tecnologías CMOS para Adquisición y Procesamiento de Señal en Codificadores Ópticos Basados en Técnicas Interferenciales”*
 Candidate: Betsaida Alexandre Barajas
 Advisors: Elisenda Roca Moreno , Gustavo Liñán Cembrano
 Degree: PhD degree. Univ. de Sevilla (US), Spain
 Defense date: June 2014
- Official member of the jury (Secretary)
 Title: *“Ultra Low Power Transceiver for Wireless Body Area Networks”*
 Candidate: Jens Masuch
 Advisor: Manuel Delgado Restituto / Tutor: Fernando Medeiro Hidalgo
 Degree: PhD degree. Univ. de Sevilla (US), Spain
 Defense date: October 2012
- Official member of the jury (Secretary)
 Title: *“Una Contribución al Diseño de Moduladores Sigma-Delta en Cascada Realizados Mediante Técnicas de Circuito en Tiempo Continuo”*
 Candidate: Ramón Tortosa Navas
 Advisors: José Manuel de la Rosa, Ángel Rodríguez Vázquez
 Degree: PhD degree. Univ. de Sevilla (US), Spain
 Defense date: June 2012
- Official member of the jury (Secretary)
 Title: *“A Contribution to the Design and Implementation of CMOS RF and Mixed-Signal Front-Ends for the IEEE 802.15.4 Standard (Zigbee) in the 2.4 GHz Band”*
 Candidate: José Alberto Villegas Calvo
 Advisor: Diego Vázquez García de la Vega
 Degree: PhD degree. Univ. de Sevilla (US), Spain

Defense date: April 2012

Other Professional Activities/Memberships

- Participation researcher in the Interdisciplinary Platform of the CSIC in Quantum Technologies (QTPE) (<https://qst.csic.es>)
- Participant researcher in the development of the white paper “Challenge 4: Cyber-Physical Systems and Internet of Things” in “Volume 10: Digital & Complex Information” of “CSIC Scientific Challenges: Towards 2030” collection. Consejo Superior de Investigaciones Científicas (CSIC), 2021. ISBN: 978-84-00-10756-7, eISBN: 978-84-00-10757-4. (Available at http://libros.csic.es/product_info.php?products_id=1523&language=en)
- Associate Editor of the International Journal of Circuit Theory and Applications (IJCTA, Wiley), 2018-2020.
- Co-coordinator of the Master Degree in Microelectronics, University of Seville, 2016-2020.
- Member of the Research Committee of the Dept. of Electronics and Electromagnetism, University of Seville, 2015-present.
- Evaluator for the National Agency for Evaluation (ANEP, Electronics Technology and Communications), 2014-present.
- Member of the Board of Governors of the Faculty of Physics, University of Seville, 2001-present.
- Member of Dissemination Commission of the Instituto de Microelectrónica de Sevilla, IMSE-CNM (CSIC, Univ. de Sevilla) from its creation in Feb. 2012 to Dec. 2015.
- “Diploma for Teaching Excellence” awarded by the University of Seville in recognition of the teaching activity developed during the academic year obtained in 2002/03, 2003/04, 2005/06.
- Reviewer of book proposals for Wiley-IEEE Press.
- Regular reviewer in indexed international journals: IEEE TCAS-I/II, IEEE JSSC, IET Electronics Letters, IEEE Journal of Emerging Technologies, Integration, the VLSI Journal (Elsevier), Microelectronics Journal (Elsevier), International Journal of Circuit Theory and Applications (IJCTA, Wiley), Analog Integrated Circuits and Signal Processing (AICSP, Springer), among others.
- Regular reviewer in international conferences: IEEE ISCAS, IEEE MWSCAS, DCIS, among others.