JOSE SILVA-MARTINEZ

Phone Number (office): (979) 845 7477

Place of Birth: Tecamachalco, Puebla, Mexico.

Email, webpage: jose-silva-martinez@tamu.edu

Areas of Research

Analog Integrated Circuits Design for

- Telecommunication Applications
- Radar Systems
- Biomedical Applications
- Power Management

Academic Degrees

PhD, Katholieke Universiteit Leuven, Belgium, 1992.

Master in Sciences, Circuits and Systems, INAOE, Puebla, Mexico 1981.

Bachelor, Universidad Autónoma de Puebla, Puebla, México, 1979.

Academic Positions

Professor, Texas A&M University, Since 2010.

Associate Professor, Texas A&M University, 2000-2010.

Visiting Associate Professor, Texas A&M University, from Sept 1999 till May 2000.

Professor, Instituto Nacional de Astrofísica Optica y Electrónica, Mexico, January 1993 to August 2000.

Associate Professor, Universidad Autonoma de Puebla, Puebla, Mexico, from May 1983 to January 1993.

Assistant Researcher, Katholieke Universiteit Leuven, Belgium, 1991 - 1992.

Visiting Scholar, Texas A&M University, College Station Texas, September 1985 to August 1986.

Visiting Professor, Instituto Tecnologico de Puebla, Puebla Mexico, August 1981 to June 1985.

Assistant Professor, Instituto Nacional de Astrofísica Optica y Electrónica, Mexico, August 1981 to May 1983.

Visiting Professor (Part Time), Universidad Autonoma de Puebla, Mexico, April 1978 to March 1980.

University Service

Associate Department Head for Graduate Studies Affairs, Department of Electrical and Computer Engineering, Texas A&M University, Jan 2015-March 2017.

Member of the Faculty Advisory Committee, Department of ECE, TAMU, Since February 2014.

Member of the Tenure and Promotion Committee, Department of ECE, TAMU, Since February 2015.

Group Leader, Analog and Mixed-Signal Group, Department of ECE, TAMU, August 2012 –Dec 2014.

Member of the Tenure and Promotion Committee, Department of ECE, TAMU, February 2011-Februry 2012.

Member of the Research and Teaching Awards Committee of the College of Engineering, Texas A&M University, starting September 2010 till Spetember 2012.

Member of the Undergraduate Studies Committee, Department of ECE, TAMU, 2003-2009.

Member of the Graduate Studies Committee, Department of ECE, TAMU, 2004-2010.

In charge of pre-screening graduate students for the Analog and Mixed-Signal Center, 2004-2010.

Professional Positions and Services

Elected 2017-2019 Member of the Board of Governors, IEEE Circuits and Systems Society.

Lead Guest Editor of the special issue based on papers of the 57th International Midwest Symposium on Circuits and Systems, Analog Integrated Circuits and Signal Processing, 2016.

Member of the 2016 IEEE CASS Fellow Evaluation Committee.

Conference Advisor, 58th IEEE Midwest Symposium on Circuits and Systems, August 2015.

International Advisory Board Member, The Michigan Tech Cyberphysical System Research Group, Michigan Technological University, since January 2015.

Editor in Chief, IEEE Transactions on Circuits and Systems part II, January 2014-December 2015.

2014-2015 Senior Editorial Board Member for the IEEE Journal on Emerging and Selected Topics in Circuits and Systems.

Member of the committees for the selection of the 2015 IEEE Circuits and Systems Guillemin-Cauer Best Paper Award

Member of the committees for the selection of the 2015 IEEE Circuits and Systems Young Author Best Paper Award

Member of the committees for the selection of the 2015 IEEE Circuits and Systems Darlington Best Paper Award

National Science Foundation panelist, November 2014.

Conference Chairman, 57th IEEE Midwest Symposium on Circuits and Systems, August 2014.

Member of the Technical Program Committee, 2014 IEEE International Symposium on Circuits and Systems, 2014.

CASS Distinguished Lecturer (DLP) for the 2-year term 2013-2014 by the IEEE Circuits and Systems Society.

Member of the committees for the selection of the 2013 IEEE Circuits and Systems Guillemin-Cauer Best Paper Award

Member of the committees for the selection of the 2014 IEEE Circuits and Systems Young Author Paper Award

Member of the committees for the selection of the 2014 IEEE Circuits and Systems Darlington Best Paper Award

Member of the Technical Program Committee, 2043 IEEE European Conference on Circuit Theory and Design, September 2013.

Member of the Technical Program Committee, IEEE International Conference in Electron Devices and Solid-State Circuits, Hong Kong, June 2013.

Member of the Editorial Board of "Chinese Journal of Engineering," Hindawi Publishing Corporation, since 2013.

Executive Editor, "Indo-American Journal of Electrical Electronics Engineering," Since 2013.

Member of the Steering Committee, IEEE Midwest Symposium on Circuits and Systems, since 2012.

Member of the 2012 IEEE CASS Fellow Evaluation Committee.

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Distinctions

According to the Citation Index, top Eigth most prolific researcher during the period 2003-2013 when considering papers published in JSSC, MTT and TCAS-I.

Appointed CASS Distinguished Lecturer (DLP) for the 2-year term 2013-2014 by the IEEE Circuits and Systems Society.

IEEE-Fellow, 2010.

TI Professor-I in Analog Engineering, Texas A&M University.

Students Awards

Co-author of a paper received the 2011 **Best Student Paper Award, IEEE MWCAS 2011**.

Co-author of the paper that received the 2003 **Best Student Paper Award, IEEE RF-IC 2003.**

Co-Advised in Testing techniques Alberto Valdes-Garcia who was The **Winner of the 2005 Best Doctoral Thesis Award, presented by the IEEE Test Technology Technical Council (TTTC), IEEE Computer Society.**

Short courses

"Power Management: Circuits and Systems", Jose silva-Martinez and Edgar Sanchez-Sinencio, Full day course, IEEE International Symposium on Circuits and Systems, Baltimore, Maryland, May 2017.

"Circuit Design Techniques for Process-Variation-Resilient Baseband Mixed-Signal ICs", Jose Silva-Martinez and Marvin Onabajo, Short Course, IEEE 2013 RF-IC Workshop "Self-Healing Mixed-Signal Circuitry", Seatle, Washington, June 2013.

"Recent advances on Nyquist and Oversampled Analog-to-Digital Converters," Jose Silva-Martinez and Yun Chiu, 3-hour tutorial, IEEE Midwest Symposium on Circuits and Systems, Boise Idaho, August 2012.

"IC Design Techniques for Wireless Receivers: Front-End and Baseband", Jose Silva-Martinez, 10 Hrs course, Polytechnical University of Catalunya, Barcelona Spain, May 29-June 1, 2012.

"Digitally Assisted RF-to-Digital Bandpass Converters for Broadband Communication Systems", Jose Silva-Martinez, Sebastian Hoyos, John Mincey, Yung-Chung Lo, Hongbo Chen, Cho-Ying Lu and Fabian Silva-Rivas, Short Course, IEEE 2011 RF-IC Workshop "New Architectures for Digitized Receivers", Baltimore Maryland, June 2011.

"On-Chip Calibration and Performance Monitoring of RF Circuits", Jose Silva-Martinez, Marvin Onabajo and Josep Altet, Short course, 2011 RF-IC Workshop "Design for Manufacturability and Testability of RFIC's and SoC's", Baltimore Maryland, June 2011.

"Analysis and Design of High-Performance Data Converters and BIST for RF circuits", Jose Silva-Martinez, 6-hour Short Course, China International Talent Exchange Foundation, Dept of IT Projects, State Administration of Foreign Experts Affairs, Beijing P.R. China, May 27, 2011.

"Design and Calibration Techniques for Analog-to-Digital Converters: From Baseband to RF Digitization", Jose Silva-Martinez, 10-hour Short Course, Dalian University of Technology, Dalian, PR China, May 16-20, 2011.

"IC Design Techniques for High-Performance Sigma-Delta Modulators", Jose Silva-Martinez, 20 Hrs course, Polytechnical University of Catalunya, Barcelona Spain, May 25-27, 2010.

Invited Lectures

"High-Performance Broadband Analog-to-Digital Converters," Jose Silva-Martinez, Singapore Army, Nanyang Technological University, Singapore, August 11, 2016.

"Highly Efficient High-Performance ΣΔ Modulators," Jose Silva-Martinez, invited speaker, Media-Tek Corporation Workshop, Nanyang Technological University, Singapore, August 10, 2016.

"Blocker Resilient Transceivers for Cognitive Radio Architectures," Jose Silva-Martinez, Aydin Karsilayan and Christopher Rodenbek, DARPA, Washington, July 29, 2016

"Design of Highly Efficinet High-Performance Broadband Analog-to-Digital Converters," Jose Silva-Martinez, Aydin Karsilayan and Christopher Rodenbek, NRL, Washington, July 28, 2016

"High Performance Broadband ΣΔ Modulators," Jose Silva-Martinez, Cirrus Logic, June 17, 2016.

"Recent Advances at TAMU on Oversampled and Nyquist ADCs," Jose Silva-Martinez, Taiwan Semiconductor Manufacturing Corporation, May 27, 2016.

"Design of Highly Efficinet High-Performance Broadband Analog-to-Digital Converters," Jose Silva-Martinez, and Aydin Karsilayan, Departent of ECE, Iowa State University, December 7, 2015.

"Development of a Brain control of high-power Amplifier for Pulsed-radar Applications," Jose Silva-Martinez, Aydin Karsilayan, Sandia national Laboratories, October 15, 2015.

"Recent Advances at TAMU on Oversampled and Nyquist ADCs: Discussion on Laoput issues," Jose Silva-Martinez, Taiwan Semiconductor Manufacturing Corporation, October 23, 2015.

"Recent Advances at TAMU on Power Amplifiers and Nyquist ADCs," Jose Silva-Martinez, Carlos Briseno and Qiyuan Liu, Taiwan Semiconductor Manufacturing Corporation, May, 2015.

"Recent Advances on Test and Calibration techniques of Integrated Circuits and Systems," Jose Silva-Martinez, Catholic University of Chile, IEEE 2014 Circuits and Systems Distinguish Lecture Program, Santiago, Chile, October, 2014.

"Fundamentals and Recent Advances on Oversampled and Nyquist ADCs," Jose Silva-Martinez, University of Syracuse, IEEE 2014 Circuits and Systems Distinguish Lecture Program, Bogota Colombia, October, 2014.

"Fundamentals on Integrated Circuits Design," Jose Silva-Martinez, University of Puerto Rico at Mayaguez, IEEE 2014 Circuits and Systems Distinguish Lecture Program, October, 2014.

"Development of Integrated Circuits for Broadband Direct Conversion Receivers in CMOS Technologies," Jose Silva-Martinez, University of Notredame, IEEE 2013 Circuits and Systems Distinguish Lecture Program, April 28, 2014.

"Fundamentals and Recent Advances on Continuous-Time Sigma-Delta Modulators and Nyquist ADCs," Jose Silva-Martinez, University of Southern California, April 11, 2014.

"Fundamentals of Integrated Circuits for Broadband Direct Conversion Receivers in CMOS Technologies," Jose Silva-Martinez, Texas A&M University, March 25, 2014.

"Development of Integrated Circuits for Broadband Direct Conversion Receivers in CMOS Technologies," Jose Silva-Martinez, University of Texas at Austin, February 20, 2014.

Funding

[1] Confiddential

Supervised Theses (2000-Present)

Total: 32 Ph.D. and 49 M.Sc.

Students graduated in 2000.

Martin Schellenberg. Ph.D. Currently with Philips, Zurich, Switzerland.

Miguel Rocha-Perez. Ph.D. Currently with National Institute for Research in Astrophysics, Optics and electronics, Mexico.

Students graduated in 2001.

Sergio Solis-Bustos, Ph.D. Currently with Intel Corporation, Guadalajara, Mexico.

Students graduated in 2002.

Students graduated in 2003.

Chen Mingdeng. Ph.D. Currently with Agere Systems.

Students graduated in 2004.

Students graduated in 2005.

Students graduated in 2006.

David Hernandez-Garduno, Ph.D. Currently with Texas Instruments, Dallas Tx.

Shanfeng Cheng, Ph.D. Currently with NXP, Austin Tx.

Artur Lewinski, Ph.D. Currently with Texas Instruments, Dallas.

Bharath Kumar Thandri, Ph.D. Currently with Cirrus Logic, Austin.

Students graduated in 2007.

Jianhong Xiao, Ph.D. Currently with Broadcom Corporation, Irvine, California.

Students graduated in 2008.

Jinghua Li, Ph.D. Currently with Nvidia, Santa Clara, California.

Vijaykumar Dhanasekaran, Ph.D. (Co-Advisor). Currently with Qualcomm, San Diego California.

Students graduated in 2009.

Manisha Ghambir, Ph.D. (Co-Advisor), currently with Marvell, Santa Clara California.

Rida Assaad, Ph.D. Currently with Texas Instruments.

Students graduated in 2010.

Cho-Ying Lu, Ph.D. Currently with Intel Corporation, Hillsboro Oregon.

Students graduated in 2011.

Marvin Onabajo, Ph.D., Joined Northeast University.

Raghavendra Kulkarni, Ph.D., Currently with Broadcom Corporation, San Jose California.

Jusung Kim, Ph.D., Currently with Qualcomm, San Diego California.

Students graduated in 2012.

Andreas Larsson, Ph.D., Currently with Synaptics, Austin Texas.

Students graduated in 2013.

Hyung-Joon Jeon, Ph., Currently with Broadcom Corporation, Irvine California.

Mohan Geddada Hemasundar, Ph., Currently with Broadcom Corporation, Irvine California.

Chang-Joon Park, Ph., Currently with Freescale Corporation, Austin, Texas.

Students graduated in 2014.

Yung-Chug Lo, Ph.D., Currently with Qualcomm, San Diego California.

Students graduated in 2015.

Students graduated in 2016.

Carlos Briseno-Vidrios, Ph.D., Currently with Silicon Laboratories, Austin Texas.

Alexander Edwards, Ph.D., Currently with Intel, Hillsboro.

John Mincey, Ph.D. Currently with Sandia National Laboratories.

Negar Rashidi, Ph.D., Currently with Qualcomm Corporation.

Students graduated in 2017.

Qiyuan Lu, Ph.D., Currently with Qualcomm Corporation.

Haoyu Qian, PhD, Currently with Qualcomm Corporation.

Lecture notes and Laboratories

[1] Revised and updated the syllabus for ELEN-620, 2004. Lecture notes available through the website: amesp02.tamu.edu/~jsilva.

[2] New laboratory manual for ELEN-325 "Electronics" by Jose Silva-Martinez and Rida Assaad, 2005. This manual is available through the website: ece.tamu.edu/~jsilva.

[3] Developed the supporting material for ELEN-474. More than 300 slides were developed for this senior/graduate course; available at website: ece.tamu.edu/~jsilva.

[4] "Introduction to Electronics: A Design Approach" Jose Silva-Martinez, Lecture notes for ELEN-325, available at amesp02.tamu.edu/~jsilva.

[5] Updated laboratory manual for ELEN-474 "Analog VLSI" by Jose Silva-Martinez and John Mincey, 2008. This manual is available through the website: ece.tamu.edu/~jsilva.

[6] Updated laboratory manual for ELEN-325 by Jose Silva-Martinez and Raghavendra Kulkarni, 2008. Early version of this manual is available through the website: ece.tamu.edu/~jsilva.

[7] Updated laboratory manual for ELEN-325 by Jose Silva-Martinez, Aydin Karsilayan, Raghavendra Kulkarni, 2011. Manual is available through the website: ece.tamu.edu/~jsilva.

[8] Revamped the laboratory manual for ELEN-215 by Jose Silva-Martinez, Omar Masud, 2013. Manual is available through the website: ece.tamu.edu/~jsilva.

[9] Laboratory manual for ECEN-478 "Power Management" by Jose Silva-Martinez and George Carpenter, 2016. This manual is available through the website: ece.tamu.edu/~jsilva.

Patents

[1] "Jitter Cancellation Method for Continuous-Time Sigma-Delta Modulators," Saad, R., Hoyos, S., and Silva-Martinez, J., United States Patent, US 8,164,500 B2, April 2012.

[2] C.Geha, C.Nguyen, J.Silva-Martinez "An Ultra-wideband Single-to-Differential Current Mode Active Balun-LNA with Low Phase and Amplitude Mismatches" Provisional Patent Filled; Texas A&M University, College Station, TX

[3] C.Geha, C.Nguyen, J.Silva-Martinez " A (22-44) GHz Coexistent Radio and Radar Receiver" *Provisional Patent Filled (06/01/2015).*

[4] "Variable Bandwidth Filter" - John Mincey, Eric Su, Jose Silva-Martinez, Christopher Rodenbeck – Patent Filed 8/6/2015

[5] "Gm-C Filter and Multi-phase Clock Circuit" - John Mincey, Jose Silva-Martinez, Christopher Rodenbeck – Patent Filed 8/6/2015

[6] "A Coherent Radar Receiver That Comprises a Sigma Delta Modulator" - John Mincey, Jose Silva-Martinez, Aydin Karsilayan, Christopher Rodenbeck – Patent Filed 3/18/2015

Books

[1] "High-Performance CMOS Continuous-Time filters", José Silva-Martinez, Michiel Steyaert and Willy Sansen, Kluwer Academic Publishers, Massachusetts: USA, 1993.

[2] "Analog Circuit Design for Process Variation-Resilient Systems-on-a-Chip", Marvin Onabajo and Jose Silva-Martinez, Book, Springer Science + Business Media B.V., March 2012.

[3] "Introduction to Electronic Circuits-A Design Oriented Approach," (Textbook for Undergraduates) Jose Silva-Martinez and Marvin Onabajo, Contract has been signed with World Scientific Publishing Company; to be published, Fall 2017.

Book Chapters

[1] "Switched-capacitor filters" (Chapter 18 of the book: Handbook on Analog Circuits and Filters, second edition; W. Kai Chen, editor), Edgar Sánchez-Sinencio and José Silva-Martínez, CRC Press and IEEE Press, 1995.

[2] "Discrete Time Filters" Chapter in Willey Encyclopedia of Electrical and Electronics Engineers, José Silva-Martínez and Gordana Jovanovic-Dolecek, John Webster Editor, published by John Willey and Sons, pp. 631-643, 1999.

[3] "Switched-capacitor filters" (Chapter 85 of the Handbook on Analog Circuits and Filters; W. Kai Chen, Editor-in-Chief), José Silva-Martínez and Edgar Sánchez-Sinencio, pp. 2573-2600, CRC Press, Dec. 2002.

[4] "Recent Advances in High Frequency Filters," (Chapter 6 of the Book "Circuits for Emerging Technologies: CMOS and Beyond", edited by Kris Iniewski) Manisha Gambhir, Vijay Dhanasekaran, Jose Silva-Martinez and Edgar Sanchez-Sinencio. CRC Press, 2007.

[5] "On-chip testing techniques for RF wireless transceiver systems and components," (Chapter 10 of the Book Test and Diagnosis of Analogue and Mixed-Signal Integrated Circuits: The System on Chip Approach, Edited by Y. Sun), Alberto Valdes-Garcia, Jose Silva-Martinez, Edgar Sanchez-Sinencio, The Institution of Engineering and Technology, pp. 309-346, 2008.

[6] "Switched-capacitor filters" (Chapter 85 of the Handbook on Analog Circuits and Filters; W. Kai Chen, Editor-in-Chief), José Silva-Martínez and Edgar Sánchez-Sinencio; 3rd edition, 2009.

[7] "Continuous-Time Filters with On-Chip Tuning," (Chapter 8; "Advanced Analog IC Design", Jose Silva-Martinez and Aydin Karsilayan, Advanced Analog Circuit Design: Smart Data Converters, Filtrers on Chip and Multimode Transmitters, Arthur van Roermund, Herman Casier and Michiel Steyaert, Editors); Springer 2009.

[8] "Wideband Continuous-Time Multi-Bit Delta-Sigma ADCs," Jose Silva-Martinez, Cho-Ying Lu, Marvin Onabajo, Fabian Silva-Rivas, Vijay Dhanasekaran and Manisha Gambhir, book chapter in "Advanced Analog Circuit Design: Robust Design, Sigma-Delta Connverters, RFID", (Arthur van Roermund, Herman Casier and Michiel Steyaert, Editors); Springer 2011.

[9] "Broadband High-Resolution Bandpass Sigma-Delta Modulator With a Software Based Calibration Scheme," Jose Silva-Martinez, Cho-Ying Lu, Marvin Onabajo, Fabian Silva-Rivas and Sebastian Hoyos", book Chapter in "Circuits for Emerging Technologies", edited by Kris Iniewski. CRC Press, 2011.

[10] "Filter Design Techniques for Wireless Receivers and ΣΔ Modulators," Jose Silva-Martinez and Raghavendra Kulkarni, book chapter in "Integrated Circuits for Analog Signal Processing", (Esteban Tlelo Cuautle, Editor); Springer Science + Business Media B.V., 2012.

[11] "Digitally Based Calibration Techniques for RF ΣΔ Modulators," Jose Silva-Martinez, Fabian Silva-Rivas, Cho-Ying Lu, John Mincey and Sebastian Hoyos, book chapter in "Topics for RF-ADCs and Frequency Translation ADC", (Paolo Carbone, Sayfe Kiaei and Fang Xu, Editors); Springer Science + Business Media B.V., 2013.

[12] "Embedded Temperature Sensors to characterize RF and mmW analog circuits," Josep Altet, Diego Mateo and Jose Silva-Martinez, book Chapter in "Technologies for Smart Sensors and Sensor Fusion", edited by Yallup and Kris Iniewski. Taylor and Francis Group, LLC, 2013.

Journal Papers (Citations according to the ISI Web of Knowledge, Thomson Reuters)

[1] "Effects of Finite Operational Gain-Bandwidth Product on a Switched Capacitor Amplifier", E. Sanchez-Sinencio, J. Silva-Martinez and Rocio Alba Flores, Electronics Letters, Vol. 17, pp. 509-510, July 1981.

(**3 citations**).

[2] "Biquadratic SC Filters with Small GB Effects", E. Sanchez-Sinencio, J. Silva-Martinez and R. Geiger, IEEE Trans on Circuits and Systems, vol CAS-31, Oct 1984.

(**22 citations**).

[3] "Trade Offs Between Passive Sensitivity, Output Voltage Swing and Total Capacitance in SC Filters", E. Sanchez-Sinencio, J. Silva-Martinez and R. Geiger, IEEE Trans on Circuits and Systems, vol. CAS-31, Nov 1984.

(**8 citations**).

[4] "Analogue OTA Multiplier without Input Voltage Restrictions and Temperature Compensated", J. Silva-Martinez and E. Sanchez-Sinencio, Electronics Letters, Vol. 22, pp. 599-600, May 1986.

(**12 citations**).

[5] "Excess Phase Jitter Cancellation Method for SC Relaxation Oscillators", J. Silva-Martinez and E. Sanchez-Sinencio, IEEE Transactions on Circuits and Systems, vol CAS-34, June 1987

(**5 citations**).

[6] "Biquadratic Programmable SC Filters with Additional Flexibility and Reduced Total Capacitance", J. Silva-Martinez and E. Sanchez-Sinencio, International Journal of Circuit Theory and Applications, Vol 17, pp 241-248, April 1989.

(**5 citations**)

[7] "Strategic SC Filter Design Based on a Comparative Study of Various S to Z Mappings", J. Silva-Martinez and E. Sanchez-Sinencio, IEEE Trans on Circuits and Systems, vol. CAS-36, pp. 1465-1472, Nov 1989

(1 citations).

[8] "Programmable Switched-Capacitor Bump Equalizer Architecture", F. Duque-Carrillo, J. Silva-Martinez and E. Sanchez-Sinencio, IEEE Journal of Solid-State Circuits, Vol 25, pp. 1035, August 1990.

(**10 citations**).

[9] " Very Linear CMOS Floating Resistor", J. Silva-Martinez, M. Steyaert and W. Sansen, IEE Electronics Letters, vol. 26, pp 1610-1611, Sept. 1990.

(**10 citations**).

[10] "A Large Signal Very Low Distortion Transconductor for High Frequency Continuous Time Filters", J. Silva-Martinez, M. Steyaert and W. Sansen, IEEE Journal of Solid-State Circuits, Vol. SC-26, pp. 946-955, July 1991.

Within the top 15% most cited paper of the journal.

(**49 citations**).

[11] "High-Frequency Saturated CMOS Floating Resistor for Fully-Differential Analogue Signal Procesor" M. Steyaert, J. Silva Martinez and W. Sansen, IEE Electronics Letters, Vol. 27, pp. 1609-1611, Aug. 1991.

(**9 citations**).

[12] "Design Techniques for High-Performance Full CMOS OTA-R-C Continuous-Time Filters," J. Silva-Martinez, M. Steyaert y W. Sansen, IEEE Journal of Solid-State Circuits, pp. 993-1002, July 1992.

(**20 citations**).

[13] "A 10.7 MHz 68 dB SNR CMOS Continuous-Time Filter with On-Chip Automatic Tuning System", J. Silva-Martinez, M. Steyaert and W. Sansen, IEEE Journal of Solid-State Circuits, pp.1843-1853, Dec. 1992.

(**92 citations**).

Within the top 5% most cited paper of the journal.

[14] "Full CMOS Continuous-Time Filters for GSM Applications", M. Steyaert, S. Gogaert, W. Dehaene, J. Silva Martínez and J. Sevenhans, Annals on Telecommunications, vol. 48, N. 3-4, pp. 224-232, 1993 (1 citations).

[15] "IC Voltage to Current Transducers with Very Small Transconductance ", J. Silva-Martínez and J. Salcedo-Suñer, Analog Integrated Circuits and Signal Processing, vol. 13, pp. 283-292, July 1997.

(29 citations)

Within the top 2.2% most cited papers of the journal.

[16] "Compact Building Blocks for Artificial Neural Networks", M. Meléndez and J. Silva-Martínez, Electronics Letters, vol. 35, pp. 56-57, January 1999.

(3 citations).

[17] "RF Low-Noise Amplifier in BICMOS Technologies", F. Carreto-Castro, J. Silva-Martinez and R. Murphy-Arteaga, IEEE Transactions on Circuits and Systems Part II, vol. 46, pp. 974-977, July 1999

(**8 citations**).

[18] "A CMOS Hearing-Aid Device", J. Silva-Martínez, J. Salcedo-Suñer, R. Rojas-Hernandez, S. Solís-Bustos and M. Schullenberg, Analog Integrated Circuits and Signal Processing, pp. 163-172, Nov. 1999

(**12 citations**).

[19] "CMOS Transconductance Amplifiers, Architectures and Active Filters: a Tutorial", E. Sanchez-Sinencio and J. Silva-Martínez, IEE Proceedings Circuits, Devices and Systems, Vol. 147, pp. 4-12, February 2000.

This is an invited paper. (167 citations).

Top three most cited paper of the Journal.

[20] "A 60 dB Dynamic Range CMOS Sixth-Order 2.4 Hz Lowpass Filter for Biomedical Applications", S. Solis-Bustos, J. Silva-Martinez, F. Maloberti and E. Sanchez-Sinencio, IEEE Trans. on Circuits and Systems, Part II, vol. 47, pp. 1391-1398, Dec. 2000.

Within the top 3.9% most cited papers of the journal.

(**86 citations**)

[21] "Design and Application of a High-Speed Digital Integrated Correlator", M. Schellenberg and J. Silva-Martinez, Trans. on Instrumentation and Measurement, Vol. 5, pp. 104-115, July 2001.

[22] "Transconductance Amplifier Structures with Very Small Tranconductances: A comparative Design Approach", A. Veeravalli, E. Sanchez-Sinencio, and J. Silva-Martínez, IEEE Journal of Solid-State Circuits, Vol. 37, pp. 770-775, June 2002.

Within the top 5.7% most cited papers of the journal.

(**89 citations**)

[23] "A CMOS Transconductance Amplifier Architecture with Wide Tuning Range for Very Low Frequency Applications", A. Veeravalli, E. Sanchez-Sinencio, and J. Silva-Martínez, IEEE Journal of Solid-State Circuits, Vol. 37, pp. 776-781, June 2002. (**44 citations**).

[24] "A Robust Feedforward Compensation Scheme for Multi-Stage Amplifiers with No-Miller Capacitors", B. K. Thandri and J. Silva-Martinez, IEEE Journal of Solid-State Circuits, Vol. 38, pp. 237-243, February 2003.

Within the top 6.9% most cited papers of the journal.

(**79 citations**).

[25] "A 60 mW, 200 MHz Continuous-Time Seventh Order Linear Phase Filter with Automatic Tuning System", J. Silva-Martinez, J. Adut, M. Rocha-Perez, M. Robinson and S. Rokhsaz, IEEE Journal of Solid-State Circuits, Vol. 38, pp. 216-225, February 2003.

Within the top 10% most cited papers of the journal.

(**60 citations**).

[26] "A Fully Balanced Pseudo Differential OTA with Common-Mode Feedforward and Inherent Common-Mode Feedback Detector", A. Mohieldin, E. Sanchez-Sinencio and J. Silva-Martinez, IEEE Journal of Solid-State Circuits, Vol. 38, Issue 4, pp. 663-668, April 2003. (**49 citations**).

[27] "A 2.4-GHz Monolithic Fractional-N Frequency Synthesizer with Robust Phase-switching Prescaler and Loop Capacitance Multiplier," K. Shu, E. Sanchez-Sinencio, J. Silva-Martínez, IEEE Journal of Solid-State Circuits, pp. 866–874, June 2003. **Within the Most-Read IEEE-JSSC Articles for 2003.** (**103 citations**).

Within the top 4.5% most cited papers of the journal.

[28] "A 1.3V, 5mW Fully-Integrated Programmable Bandpass Filter at 2.1GHz in 0.35μm CMOS", F. Dülger, E. Sánchez-Sinencio and J. Silva-Martínez, IEEE Journal of Solid-State Circuits, pp. 918–928, June 2003.

(**39 citations**).

[29] "Compact Sub-Hertz OTA-C Filter Design with Interface-Trap Charge Pump," A. Becker-Gomez, U. Ciringiroglu, and J. Silva-Martínez, IEEE Journal of Solid-State Circuits, pp. 929–934, June 2003

(9 citations).

[30] "A 2.7-V 1.8-GHz fourth-order tunable LC bandpass filter based on emulation of magnetically coupled resonators", A. Mohieldin, E. Sánchez-Sinencio and J. Silva-Martínez, IEEE J. of Solid-State Circuits, pp. 1172–1181, July 2003

(16 citations).

[31] "A $2V_{pp}$, 80-200 MHz Fourth-Order Continuous-Time Linear Phase Filter With Automatic Frequency Tuning," M. Chen. J. Silva-Martínez, S. Roskhsaz and M. Robinson, IEEE Journal of Solid-State Circuits, pp. 1745-1749, October 2003.

(**35 citations**)

[32] "Nonlinear Effects in Pseudo-Differential OTAs with CMFB", A. Nader Mohieldin, E. Sanchez-Sinencio and J. Silva-Martinez, IEEE Transactions on Circuits and Systems, Part-II, pp. 762-770, October 2003.

(25 citations).

[33] "A 270 MHz $1V_{pk-pk}$ Low-Distortion Variable Gain Amplifier in 0.35μm CMOS Process," S. T. Tan and J. Silva-Martínez, Analog Integrated Circuits Design and Applications, Vo. 38, pp. 149-160, February 2004.

(**8 citations**).

[34] "A Frequency Compensation Scheme for LDO Voltage Regulators," C. K. Chava and J. Silva-Martinez, IEEE Transactions on Circuits and Systems Part-I, Vol. 51, pp. 1041-1050, June 2004.

2004

Top three most downloaded IEEE TCAS-I paper during the entire year.

2005

Top three most downloaded IEEE TCAS-I paper during the entire year.

2006: Data was not available

2007: Not enough data available.

Top three most downloaded paper of the TCAS-I, November.

2008

Top two most downloaded most downloaded IEEE TCAS-I paper during the entire year.

Top three most downloaded paper, March and May

Top four most downloaded paper of the TCAS-I in August and September

Top most downloaded paper in December

2009

Top five most downloaded Article for IEEE TCAS-I during the entire year

Top four most downloaded paper of the TCAS-I in February

Top five most downloaded paper of the TCAS-I in April and May

Top seven most downloaded paper of the TCAS-I in March

Top eigth most downloaded paper of the TCAS-I in December

Top nine most downloaded paper of the TCAS-I in November

2010

Top four most downloaded Article for IEEE TCAS-I during the entire year

Top seven most downloaded paper of the TCAS-I in April and June

Top nine most downloaded paper of the TCAS-I in December

2011

Top 15 most downloaded paper of the TCAS-I in April

Top 17 most downloaded paper of the TCAS-I in May

Top 20 most downloaded paper of the TCAS-I in June

Top 12 most downloaded paper of the TCAS-I in August

Top 6 most downloaded paper of the TCAS-I in October

Top 19 most downloaded paper of the TCAS-I in November

Top 19 most downloaded paper of the TCAS-I in December

2012

Top 11 most downloaded paper of the TCAS-I in March

Top 15 most downloaded paper of the TCAS-I in June

Top 2 most downloaded paper of the TCAS-I in November

Top 5 most downloaded paper of the TCAS-I in December

2013

Top 19 most downloaded paper of the TCAS-I in January

Top 16 most downloaded paper of the TCAS-I in June

Top 20 most downloaded paper of the TCAS-I in July

Top 21 most downloaded paper of the TCAS-I in August

Top 22 most downloaded paper of the TCAS-I in September

Top 10 most downloaded paper of the TCAS-I in October

Top 10 most downloaded paper of the TCAS-I in November

Top 18 most downloaded paper of the TCAS-I in December

2014

Top 18 most downloaded paper of the TCAS-I in January

Top 25 most downloaded paper of the TCAS-I in March

Top 17 most downloaded paper of the TCAS-I in April

Top 14 accessed paper of the TCAS-I, May 2014.

Top 22 accessed paper of the TCAS-I, June 2014.

Top 9 accessed paper of the TCAS-I, Augut 2014.

Top 13 accessed paper of the TCAS-I, September 2014.

Top 4 accessed paper of the TCAS-I, October 2014.

Top 14 accessed paper of the TCAS-I, November 2014.

2015

Top 26 most downloaded paper of the TCAS-I in January

Top 9 most downloaded paper of the TCAS-I in February

Top 25 most downloaded paper of the TCAS-I in March

Top 3 most downloaded paper of the TCAS-I in April

Top 9 most downloaded paper of the TCAS-I in May

Top 8 most downloaded paper of the TCAS-I in June

Top 13 accessed paper of the TCAS-I, August

Top 20 accessed paper of the TCAS-I, September

Top 15 accessed paper of the TCAS-I, October

Top 27 accessed paper of the TCAS-I, November

Top 30 accessed paper of the TCAS-I, December

2016

Top 13 most downloaded paper of the TCAS-I in January

Top 25 most downloaded paper of the TCAS-I in February

Top 12 most downloaded paper of the TCAS-I in March

Top 24 most downloaded paper of the TCAS-I in April

Top 23 most downloaded paper of the TCAS-I in May

Top 10 most downloaded paper of the TCAS-I in June

Top 41 most downloaded paper of the TCAS-I in July

Top12 most downloaded paper of the TCAS-I in August

Top10 most downloaded paper of the TCAS-I in September

Top 7 most downloaded paper of the TCAS-I in October

Top 34 most downloaded paper of the TCAS-I in November

Top 7 most downloaded paper of the TCAS-I in December

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2008

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Top most downloaded IEEE TCAS- I paper in May

Top two most downloaded most downloaded IEEE TCAS-I paper in August and September.

Top three most downloaded IEEE TCAS-I paper in March

Top four most downloaded IEEE TCAS-I paper in December

2009

Top three most downloaded Article for IEEE TCAS-I during the entire year

Top most downloaded IEEE TCAS- I paper in May

Top two most downloaded IEEE TCAS-I paper in April and July

Top three most downloaded IEEE TCAS-I paper in February

Top five most downloaded paper of the TCAS-I in March and December

Top six most downloaded paper of the TCAS-I in June, September and November

2010

Top seven most downloaded Article for IEEE TCAS-I during the entire year

Top seven most downloaded IEEE TCAS-I paper January and September

2011

Top 8 most downloaded paper of the TCAS-I in April

Top 10 most downloaded paper of the TCAS-I in May and June

Top 15 most downloaded paper of the TCAS-I in July

Top 4 most downloaded paper of the TCAS-I in August

Top 11 most downloaded paper of the TCAS-I in September

Top 4 most downloaded paper of the TCAS-I in October

Top 9 most downloaded paper of the TCAS-I in November

Top 4 most downloaded paper of the TCAS-I in December

2012

Top 14 most downloaded paper of the TCAS-I in January

Top 21 most downloaded paper of the TCAS-I in February

Top 8 most downloaded paper of the TCAS-I in March

Top 4 most downloaded paper of the TCAS-I in May

Top 10 most downloaded paper of the TCAS-I in June

Top 8 most downloaded paper of the TCAS-I in July

Top 17 most downloaded paper of the TCAS-I in September

Top 9 most downloaded paper of the TCAS-I in November

Top 10 most downloaded paper of the TCAS-I in December

2013

Top 11 most downloaded paper of the TCAS-I in January

Top 8 most downloaded paper of the TCAS-I in June

Top 12 most downloaded paper of the TCAS-I in July

Top 11 most downloaded paper of the TCAS-I in August

Top 13 most downloaded paper of the TCAS-I in September

Top 5 most downloaded paper of the TCAS-I in September

Top 6 most downloaded paper of the TCAS-I in November

Top 9 most downloaded paper of the TCAS-I in December

2014

Top 5 most downloaded paper of the TCAS-I in January

Top 5 most downloaded paper of the TCAS-I in February

Top most downloaded paper of the TCAS-I in March

Top three downloaded paper of the TCAS-I in April

Top four accessed paper of the TCAS-I, May 2014.

Top four accessed paper of the TCAS-I, June 2014.

Top three accessed paper of the TCAS-I, July 2014.

Top three accessed paper of the TCAS-I, August 2014.

Top four accessed paper of the TCAS-I, September 2014.

Top most accessed paper of the TCAS-I, October 2014.

Top most accessed paper of the TCAS-I, November 2014.

Top most accessed paper of the TCAS-I, December 2014.

2015

Top Three accessed paper of the TCAS-I, January 2015.

Top Six accessed paper of the TCAS-I, February 2015.

Top Nine accessed paper of the TCAS-I, March 2015.

Top Six accessed paper of the TCAS-I, April 2015.

Top seven accessed paper of the TCAS-I, May 2015.

Top eleven accessed paper of the TCAS-I, June 2015.

Top nine accessed paper of the TCAS-I, Auguste 2015.

Top thirrteen accessed paper of the TCAS-I, September 2015.

Top nine accessed paper of the TCAS-I, October 2015.

Top three accessed paper of the TCAS-I, November 2015.

Top 12 accessed paper of the TCAS-I, November

2016

Top 11 most downloaded paper of the TCAS-I in January

Top 12 most downloaded paper of the TCAS-I in February

Top 3 most downloaded paper of the TCAS-I in March

Top 2 most downloaded paper of the TCAS-I in April

Top 2 most downloaded paper of the TCAS-I in May

Top 3 most downloaded paper of the TCAS-I in June

Top 6 most downloaded paper of the TCAS-I in July

Top 14 most downloaded paper of the TCAS-I in August

Top 31 most downloaded paper of the TCAS-I in September

Top 16 most downloaded paper of the TCAS-I in October

Top 6 most downloaded paper of the TCAS-I in November

Top 6 most downloaded paper of the TCAS-I in December

2017

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Top 16 most accessed paper, March 2011

Top 17 most accessed paper, April 2011.

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Top 20 paper accessed in IEEE overall June 2013

Top four most read paper of IEEE- JSSC, June 2013

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