Prof. Dr. Eng. Cosmin Radu Popa

Faculty of Electronics, Telecommunications and Information Technology
University Politehnica of Bucharest

GENERAL INFORMATION

a. Information about the degrees and diplomas

Faculty of Electronics, Telecommunications and Information Technology, University Politehnica of Bucharest, Romania

Date and place of birth: April 24th, 1974, Constanta, Romania

- From 2014 - **Ph.D coordinator** in Doctoral School of Electronics, Telecommunications and Information Technology, University Politehnica of Bucharest
- 1997-2003 - **Ph.D. Diploma, SUMMA CUM LAUDE distinction**, thesis title: *Analog Integrated Circuits with Improved Performances*, coordinator professor Anton Manolescu
- 1997-1998 - **Master of Science in Microelectronics,** Faculty of Electronics, Telecommunications and Information Technology, University Politehnica of Bucharest
- 1992-1997 - **Engineer Diploma**, Faculty of Electronics, Telecommunications and Information Technology, University Politehnica of Bucharest (1997)
- 1988-1992 - **High School Diploma**, National College *Mircea cel Batran*, Constanta
- **IN HOC SIGNO VINCES AWARD diploma** (2006) and medal, **MAGNA CUM LAUDE** distinction and **IN TEMPORE OPPORTUNO AWARD diploma** (2008), conferred by the National Council for Scientific Research in Higher Education and, respectively, by University Politehnica of Bucharest, for excellence in scientific research activity

b. Information about the professional experience and jobs

Cosmin Radu Popa has appointed during his teaching activity, in the following positions (obtained from national contests): assistant professor (2000-2003), lecturer (2004-2012), associate professor (2012-2014) and professor (2014-to date) at the Faculty of Electronics, Telecommunications and Information Technology Bucharest from University Politehnica of Bucharest. He is the course titular for the following disciplines: *Analog Integrated Circuits*, *Circuits Intégrés*, *Electronic Devices and Circuits*, *Design Techniques for Analog VLSI Structures*, *Computer Aided Design of Microelectronic Circuits* and *Fundamentals of Electronics* from the academic year 2003/2004 to date. His courses were taught in Romanian language, also in English and French languages, Cosmin Radu Popa teaching in his career many multinational student teams.

He has participated at many specialization and research stages in the area of VLSI CMOS analog integrated circuits at the Institut National Polytechnique de Grenoble (France), Technical University of Darmstadt (Germany), Institute of Microelectronic Systems, University of Paris 6, Universite Pierre et Marie Curie (France) and Institut Superieur d'Electronique de Paris – ISEP (France), presenting public lectures in the field of analysis and design of VLSI CMOS analog integrated circuits at Technical University Darmstadt, Institute of Microelectronic Systems.

Cosmin Radu Popa has coordinated, during his entire scientific activity, a large number of multinational teams of researchers and professors involved in many projects, covering the field of design and optimization of analog integrated circuits' performances. All these research projects have been managed by Cosmin Radu Popa, being successfully finalized with all scientific and financial objectives fulfilled.

He also works in the Micro- and Nanoelectronic Circuits research Laboratory from Faculty of Electronics, Telecommunications and Information Technology, coordinating the group of postdoctoral researchers, PhD and master students involved in its activity and developing many collaborations with research teams from important universities having similar areas of interest.

Cosmin Radu Popa has a research experience of over 25 years and a full time postdoctoral research experience of over 20 years, having an independent scientific and research activity of large international visibility. The most important results of this research activity has been focused in the publication as single author of three monographs at SPRINGER Publishing House (***Superior-Order Curvature-Correction Techniques for Voltage References*** (2009 year), ***Synthesis of Computational Structures for Analog Signal Processing*** (2011 year) and ***Current-Mode Analog Nonlinear Function Synthesizer Structures*** (2013 year), also of other 5 books in the field of analysis and design of VLSI CMOS analog integrated circuits, as well as in the coordination of 7 research projects obtained in CEEX,

IDEAS, CNCSIS and POSDRU competitions, or in participation as a member of the research team in other 14 research projects.

The original research results have been concretized in the publication of 37 articles in the most important international scientific journals (IEEE Transactions on Very Large Scale Integration Systems, Springer Journal on Analog Integrated Circuits and Signal Processing, International Journal of Electronics, Journal of Circuits, Systems and Computers or Lecture Notes in Computer Science – Springer, Microelectronics Journal), of which 22 articles were published in ISI journals and also in 133 scientific papers in international conferences proceedings, of which 74 papers are published in ISI proceedings.

PUBLICATIONS

1. PHD THESIS: *"Analog Integrated Circuits with Improved Performances"*, SUMMA CUM LAUDE distinction

2. BOOKS

1) **Cosmin Popa**, "*Analog Integrated Circuits. Current Sources. Voltage Sources*", MatrixRom Publishing House, 1999

2) Anca Manolescu, Anton Manolescu, **Cosmin Popa**, "*Analog Integrated Circuits*", 2005

3) Anca Manolescu, Anton Manolescu, **Cosmin Popa**, "*Analysis and Design of VLSI CMOS Analog Integrated Circuits*", Printech Publishing House, 2006

4) **Cosmin Popa**, "*Superior-Order Curvature-Correction Techniques for Voltage References*", **Springer Publishing House**, 2009

5) **Cosmin Popa**, "*Synthesis of Computational Structures for Analog Signal Processing*", **Springer Publishing House**, 2011

6) **Cosmin Popa**, "*Current-Mode Analog Nonlinear Function Synthesizer Structures*", **Springer Publishing House**, 2013

7) **Cosmin Popa**, "*Analysis and Simulation of Fundamental Analog Integrated Circuits*", Printech Publishing House, 2013, ISBN 978-606-521-964-9

8) **Cosmin Popa**, "*Nonlinear CMOS Structures for Analog Signal Processing*", Printech Publishing House, 2013, ISBN 978-606-521-974-8

9) **Cosmin Popa**, "*Analog Integrated Circuits. Practical Applications*", Printech Publishing House, 2014

3. PAPERS

3.1. Papers published in ISI journals

1) **Cosmin Popa,** "*Active Resistor with Improved Linearity for Analog Signal Processing*", **Romanian Journal of Information Science and Technology, Romanian Academy**, vol. 9, number 1, 2006, pp. 53-62

2) **Cosmin Popa**, "*Improved Linearity CMOS Multifunctional Structure for VLSI Applications",* **Romanian Journal of Information Science and Technology**, Romanian Academy, vol. 10, number 2, 2007, pp. 157-165

3) **Cosmin Popa**, "*Improved Accuracy Pseudo-Exponential Function Generator with Applications in Analog Signal Processing*", **IEEE Transactions on Very Large Scale Integration Systems**, vol. 16, Issue: 3, ISSN: 1063-8210, 2008, pp. 318-321

4) **Cosmin Popa**, "*Optimal Superior-Order Curvature-Corrected Voltage Reference Based on the Weight Difference of Gate-Source Voltages*", **Springer Journal on Analog Integrated Circuits and Signal Processing**, Issue 1, 2008, ISSN:0925-1030, pp. 1-6

5) **Cosmin Popa**, "*Negative Resistance Active Resistor with Improved Linearity and Frequency Response*", **Journal of Circuits, Systems and Computers**, 2009, pp. 1-10

6) **Cosmin Popa**, "*Logaritmical Curvature-Corrected Voltage Reference with Improved Temperature Behavior*", **Journal of Circuits, Systems and Computers**, vol. 18, No. 3, 2009, pp. 519-534

7) Anca Manolescu**, Cosmin Popa**, "*Low-Voltage Low-Power Improved Linearity CMOS Active Resistor Circuits*", **Springer Journal on Analog Integrated Circuits and Signal Processing**, 2009, pp. 373-387

8) Anca Manolescu, **Cosmin Popa**, "*CMOS Differential Structure with Improved Linearity and Increased Frequency Response*", **Revue Roumaine des Sciences Techniques,** 2010, pp. 191-200

9) **Cosmin Popa**, "*CMOS Logarithmic Curvature-Corrected Voltage Reference by Using a Multiple Differential Structure*", **Revue Roumaine des Sciences Techniques,** 2010, pp. 436-444

10) **Cosmin Popa**, "*Low-Power Low-Voltage Superior-Order Curvature Corrected Voltage Reference*", **International Journal of Electronics**, vol. 97, Issue 6, 2010, pp. 613-622

11) Anca Manolescu, **Cosmin Popa, "***A 2.5GHz CMOS Mixer with Improved Linearity***", Journal of Circuits, Systems and Computers,** vol. 20, Number 2, April 2011, pp. 233-242
12) **Cosmin Popa**," *Low-Voltage Low-Power Superior-Order Curvature Corrected Voltage Reference*", **Springer Journal on Analog Integrated Circuits and Signal Processing**, 2010, pp. 233-238
13) **Cosmin Popa**,*" Improved Linearity Low Area CMOS Multifunctional Structures",* vol. 98, Issue 8, 2011, pp. 995-1023
14) **Cosmin Popa**,*"Current-Mode Euclidean Distance Circuit Independent on Technological Parameters",* **International Journal of Electronics**, vol. 98, Issue 11, 2011, pp. 1483-1501
15) **Cosmin Popa**, "*Multifunctional CMOS Structure with Improved Linearity",* **Journal of Circuits, Systems and Computers**, 2011, vol. 20, Issue 7, pp. 1261-1275
16) **Cosmin Popa**, "*Low-Voltage Improved Accuracy Gaussian Function Generator with Fourth-Order Approximation*", **Microelectronics Journal**, 2012, vol. 43, issue 8, pp. 515-520
17) **Cosmin Popa**, "*High-Accuracy Function Synthesizer Circuit with Applications in Signal Processing*", **EURASIP Journal on Advanced in Signal Processing**, 2012
18) **Cosmin Popa**, "*Low-Voltage CMOS Current-Mode Exponential Circuit with 70dB Output Dynamic Range*", **Microelectronics Journal**, vol. 44, Issue 12, December 2013, pp. 1348-1357
19) **Cosmin Popa**, "*Improved Accuracy Current-Mode Multiplier Circuits with Applications in Analog Signal Processing*", **IEEE Transactions on Very Large Scale Integration (VLSI) Systems**, vol. 22, No. 2, pp. 443-447, 2014
20) **Cosmin Popa**, *"High Output Dynamic Range Exponential Function Synthesizer"*, **Microelectronics Journal,** vol. 63, May 2017, pp. 123–130
21) **Cosmin Popa**, *"High Accuracy CMOS Multifunctional Structure Based on a Functional Core"*, **International Journal of Electronics Letters**, 2017
22) **Cosmin Radu Popa**, *"High-Accuracy Gaussian Function Generator for Neural Networks",* **Electronics MDPI** 2023, 12(1), 24, https://doi.org/10.3390/electronics12010024

3.2. Papers published in international journals

1) **Cosmin Popa**, *"Linearity Improvement Design Technique for a CMOS Differential Amplifier",* **Scientific Bulletin of University "Politehnica" of Bucharest**, 2000, pp. 51-60;
2) **Cosmin Popa**, *"BiCMOS High Precision Temperature Transducer",* **Scientific Bulletin of University "Politehnica" of Bucharest**, 2000, pp. 15-22;
3) **Cosmin Popa**, *"High Precision Temperature Transducer",* **Transactions on Electronics and Communications Scientific Bulletin of University "Politehnica" of Timişoara**, 2000, pp. 93-96;
4) **Cosmin Popa**, *"CMOS Programmable Current-Mode Computational Circuit with Improved Accuracy for VLSI Applications"*, **Transactions on Electronics and Communications Scientific Bulletin of University "Politehnica" of Timişoara** Tomul 49(63), Fascicola 1, 2004, ISSN 1583-3380, pp. 122-125;
5) **Cosmin Popa,** "*New Reducing Complexity Techniques for Computational Circuits Using bulk-driven Subthreshold-Operated and FGMOS Devices*", **Transactions on Electronics and Communications Scientific Bulletin of University "Politehnica" of Timişoara**, Tomul 49(63), Fascicola 1, 2004, ISSN 1583-3380, pp. 126-130;
6) **Cosmin Popa,** Anca Manolescu, Anton Manolescu, "*Superior-Order Curvature-Corrected Voltage Reference with Improved Performances*", **Transactions on Electronics and Communications Scientific Bulletin of University "Politehnica" of Timişoara**, 2006
7) Cristian Mamo, **Cosmin Popa,** "*Superior-Order Curvature-Corrected CMOS Voltage Reference Using a Threshold Voltage Extractor and an Asymmetrical Differential Amplifier*", **Anals of University of Craiova**, 2006
8) **Cosmin Popa,** "*Superior-Order Approximation Pseudo-Exponential Circuit*", **Anals of University of Craiova**, 2006
9) **Cosmin Popa**, "*Improved Linearity Active Resistor with Negative Equivalent Resistance*", **Transactions on Electronics and Communications Scientific Bulletin of University "Politehnica" of Timişoara**, Tom 51(65), Fascicola 1-2, 2006
10) **Cosmin Popa**, Anca Manolescu, Anton Manolescu, *"Integrated Nanostructure with Improved Temperature Dependence",* **Anals of University of Craiova**, 2007, Electrical Engineering Series
11) Cosmin Popa, "*Low-Voltage Low-Power Curvature-Corrected Voltage Reference Circuit Using DTMOSTs*", **Lecture Notes in Computer Science**, 2007**, Springer**, pp. 117-124
12) **Cosmin Popa**, "*CMOS Voltage References with Improved Temperature Behavior Using Subthreshold-Operated MOS Devices*", **Transactions on Electronics and Communications Scientific Bulletin of University "Politehnica" of Timişoara**, 2008
13) **Cosmin Popa**, "*CMOS Multiplier Circuit with Improved Linearity*", **Transactions on Electronics and Communications Scientific Bulletin of University "Politehnica" of Timişoara**, 2008
14) **Cosmin Popa**, "*A New FGMOST Euclidean Distance Computational Circuits Based on Algebraic Mean of the Input Potentials*", **Lecture Notes in Computer Science, Springer**, 2009, pp. 459-466

15) **Cosmin Popa**, "*Superior-Order Curvature-Corrected Voltage Reference Using a Current Generator",* **Lecture Notes in Computer Science, Springer**, 2010, pp. 12-21

3.3. Papers published in ISI proceedings

1) **Cosmin Popa**, *"Volume Digital Control System and Graphic Equaliser to an Audio Amplifier",* The 17th International Semiconductor Conference, CAS 1994, Sinaia, România, pp. 289-292;
2) **Cosmin Popa**, Octavian Mitrea, *"Constant g_m Rail-to-Rail CMOS Input Stage With Improved Linearity",* The 2nd International Symposium on Image and Signal Processing and Analysis, ISPA 01, Croatia, 2001, pp. 511-514
3) **Cosmin Popa**, Octavian Mitrea, *"Optimal Curvature-Compensated BiCMOS Bandgap Reference",* The 2nd International Symposium on Image and Signal Processing and Analysis, ISPA 01, Croatia, 2001, pp. 507-510
4) **Cosmin Popa**, Octavian Mitrea, *"Micropower CMOS Voltage Reference",* The 2nd International Symposium on Image and Signal Processing and Analysis, ISPA 01, Croatia, 2001, pp. 502-506
5) **Cosmin Popa**, *"Low-Power Rail-to-Rail CMOS Linear Transconductor",* The 24th International Semiconductor Conference, CAS 2001, Sinaia, România, pp. 557-560
6) **Cosmin Popa**, Octavian Mitrea, Anca Manuela Manolescu, Manfred Glesner, *"Low-Power CMOS Active Resistor Independent on the Threshold Voltage"*, The 9th IEEE International Conference on Electronics, Circuits and Systems, ICECS 2002, Dubrovnik, Croatia, pp. 57-60
7) Cristian Ravariu, Adrian Rusu, F. Ravariu, Dragos Dobrescu, Lidia Dobrescu, **Cosmin Popa**, I. Chiran, *"A New Job for the Pseudo-MOS Transistor: Working in the Pressure Sensor Field",* The 9th IEEE International Conference on Electronics, Circuits and Systems, ICECS 2002, Dubrovnik, Croatia, pp. 215-218
8) **Cosmin Popa**, "*Autoprogramable Superior-Order Curvature-Correction CMOS Thermal System*", The 25th International Semiconductor Conference, CAS 2002, Sinaia, România, pp. 369-372
9) **Cosmin Popa**, *"A 0.35μm CMOS Linear Differential Amplifier Independent of Threshold Voltage",* The 4th International Conference on Advanced Semiconductor Devices and Microsystems, ASDAM 2002, Slovacia, 2002, pp. 227-230
10) **Cosmin Popa**, *"Superior-Order Curvature-Correction CMOS Smart Temperature Sensor",* The 4th International Conference on Advanced Semiconductor Devices and Microsystems, ASDAM 2002, Slovacia, 2002, pp. 373-376;
11) **Cosmin Popa**, Daniela Coadă, "*A New Linearization Technique for a CMOS Differential Amplifier Using Bulk-Driven Weak-Inversion MOS Transistors*", International Symposium on Circuits and Systems, SCS 2003, Iaşi, România, pp. 589-592
12) **Cosmin Popa**, "*A New Curvature-Corrected Voltage Reference Based on the Weight Difference of Gate-Source Voltages for Subthreshold-Operated MOS Transistors*", International Symposium on Circuits and Systems, SCS 2003, Iaşi, România, pp. 585-588
13) **Cosmin Popa**, Anca Manuela Manolescu, *"DTMOST Low-Voltage Refernce Circuit with Logarithmic Curvature Correction",* CAS 2003 Proceedings, The 26th Edition Annual Semiconductors Conference, Sinaia, Romania, 2003, pp. 353-356
14) **Cosmin Popa**, Anca Manulela Manolescu, *"CMOS Voltage Extractors and Their Applications in VLSI Designs"*, CAS 2003 Proceedings, The 26th Edition Annual Semiconductors Conference, Sinaia, Romania, 2003, pp. 349-352
15) Octavian Mitrea; **Cosmin Popa**; Anca Manolescu; Manfred Glesner, "*A linearization technique for radio frequency CMOS Gilbert-type mixers* ", Electronics, Circuits and Systems, 2003. ICECS 2003. Proceedings of the 2003 10th IEEE International Conference on , vol. 3, 2003, pp. 1086 - 1089
16) **Cosmin Popa**, "*CMOS Current-Mode Euclidean Distance Circuit Using Floating-Gate MOS Transistors*", The 24th International Conference on Microelectronics, MIEL 2004, vol. II, pp. 585-588
17) **Cosmin Popa**, **"***A Digital-Selected Current-Mode Function Generator for Analog Signal Processing Applications***"**, CAS 2004 Proceedings, The 27th Edition Annual Semiconductors Conference, Sinaia, Romania, 2004, pp. 495-498
18) **Cosmin Popa**, *"A New FGMOS Active Resistor with Improved Linearity and Frequency Response*", CAS 2004 Proceedings, The 27th Edition Annual Semiconductors Conference, Sinaia, Romania, 2004, pp. 295-298
19) **Cosmin Popa**, *"Power-Efficient Superior-Order Curvature-Corrected Voltage Reference Using CMOS Computational Circuits",* International Symposium on Signals, Circuits and Systems, ISSCS 2005, Iasi, Romania, pp. 23-26
20) **Cosmin Popa**, *"CMOS Logarithmic Curvature-Corrected Voltage Reference Using a Multiple Differential Structure",* International Symposium on Signals, Circuits and Systems, ISSCS 2005, Iasi, Romania, pp. 413-416
21) **Cosmin Popa**, *"Current-Mode Euclidean Distance Circuit Independent on Technological Parametrs",* The 28th Edition Annual Semiconductors Conference, Sinaia, Romania, 2005, pp. 459-462
22) **Cosmin Popa**, *"A New Improved Linearity Active Resistor Using Complementary Functions",* The 28th Edition Annual Semiconductors Conference, Sinaia, Romania, 2005, pp. 391-394
23) **Cosmin Popa**, "*Improved Accuracy Pseudo-Exponential with Applications in Analog Signal Processing",* The International Conference on "Computer as a Tool", EUROCON 2005, Belgrade, Serbia & Montenegro, pp. 1594-1597

24) **Cosmin Popa**, "*Linear Active Resistor Based on CMOS Square-Root Circuits for VLSI Applications",* The International Conference on "Computer as a Tool", EUROCON 2005, Belgrade, Serbia & Montenegro, pp. 894-897
25) **Cosmin Popa**, *"FGMOS Optimal Curvature-Corrected Voltage Reference",* MELECON 2006, Spania, 2006, pp. 43-46
26) **Cosmin Popa**, "*Improved Linearity Active Resistor Using Equivalent FGMOS Devices*", MIEL 2006, Serbia & Montenegro, 2006, pp. 396-399
27) **Cosmin Popa**, "*An Improved Performances FGMOS Voltage Comparator for Data Acquisition Systems*", MIEL 2006, Serbia & Montenegro, pp. 420-423
28) **Cosmin Popa,** "*Improved Linearity Active Resistor with Controllable Negative Resistance*", International Conference on IC Design and Technology, Padova, Italy, 2006, pp. 1-4
29) **Cosmin Popa**, Anca Manolescu, Anton Manolescu, "*Improved Linearity CMOS Active Resistor with Increased Frequency Response and Controllable Equivalent Resistance*", The 29th Edition Annual Semiconductors Conference, Sinaia, Romania, CAS 2006, pp. 355-358
30) **Cosmin Popa**, "*Multifunctional Linear Structure with Applications in VLSI Designs*", The 29th Edition Annual Semiconductors Conference, Sinaia, Romania, CAS 2006, pp. 433-436
31) **Cosmin Popa**, "*Improved Performances Linearization Technique for CMOS Differential Structure*", IEEE Instrumentation and Measurement Technology Conference 2007, Poland, pp. 1-4
32) **Cosmin Popa**, "*CMOS Nanostructure with Auto-Programmable Thermal Loop and Superior-Order Curvature Corrected Technique*", IEEE Instrumentation and Measurement Technology Conference 2007, Poland, pp. 5-8
33) **Cosmin Popa,** "*CMOS Integrated Circuit with Improved Temperature Behavior Based on a Temperature Optimized Auto-Programmable Loop*", The International Conference on "Computer as a Tool", EUROCON 2007, Poland, pp. 245-249
34) **Cosmin Popa**, "*Improved Accuracy Function Generator Circuit for Analog Signal Processing*", EUROCON 2007, Poland, pp. 231-236
35) **Cosmin Popa**, Anca Manolescu, "*CMOS Differential Structure with Improved Linearity and Increased Frequency Response*", 30th Edition Annual Semiconductors Conference (CAS 2007), Sinaia, Romania, pp. 517-520
36) **Cosmin Popa**, *"Linearity Evaluation Technique for CMOS Differential Amplifier*", The 26th International Conference on Microelectronics, MIEL 2008, pp. 451-454
37) **Cosmin Popa**, "*Low-Power High Precision Integrated Nanostructure with Superior-Order Curvature-Corrected Logarithmic Core"*, International Conference on IC Design and Technology, ICICDT 2008, Grenoble
38) **Cosmin Popa**, "*Quadratic Computational Circuits for VLSI Designs*", European Modeling and Simulation Symposium 2008, Italy
39) **Cosmin Popa**, "*Programmable CMOS Active Resistor Using Computational Circuits*", The 31th Edition Annual Semiconductors Conference, Sinaia, Romania, CAS 2008, pp. 389-392
40) **Cosmin Popa**, "*Computational Circuits Using Bulk-Driven MOS Devices*", IEEE International Conference EUROCON 2009, pp. 246-251
41) **Cosmin Popa**, "*Curvature-Corrected Voltage Reference Using FGMOS Devices*", IEEE International Conference EUROCON 2009, Saint Petersburg, 2009, pp. 252-255
42) **Cosmin Popa**, "*Superior-Order Curvature-Corrected Logarithmic CMOS Nanostructure*", The Third International Conference on Quantum, Nano and Micro Technologies, ICQNM 2009, Cancun
43) **Cosmin Popa**, "*Logarithmic Compensated Voltage Reference*", The 7th Spanish Conference on Electron Devices 2009, CDE 2009, Santiago de Compostella, Spain, pp. 215-218
44) **Cosmin Popa**, "*CMOS Nanostructures with Improved Temperature Behavior Using Double Differential Structures*", The Third International Conference on Sensor Technologies and Applications, SENSORCOMM 2009, Athens, Greece, pp. 86-89
45) **Cosmin Popa**, "*Multiplier Circuit with Improved Linearity using FGMOS Transistors*", International Symposium ELMAR 2009, pp. 159-162
46) **Cosmin Popa**, "*High Accuracy CMOS Multifunctional Structure for Analog Signal Processing*", The 32th Edition Annual Semiconductors Conference, CAS 2009, Sinaia, Romania, pp. 427-430
47) **Cosmin Popa**, "*Tunable CMOS Active Resistor Circuit with Improved Linearity Based on the Arithmetical Mean Computation*", The 15th IEEE Mediterranean Electrotechnical Conference, MELECON 2010, Malta, pp. 1379 - 1382
48) **Cosmin Popa**, "*Improved Accuracy Thermal Nanostructure", International Conference on Nanotechnology, Optoelectronics and Photonics*", ICNOP 2010, Rome
49) **Cosmin Popa**,*"CMOS Multifunctional Computational Structure with Improved Performances",* The 33th Edition Annual Semiconductors Conference, CAS 2010, Sinaia, Romania, pp. 475-478
50) **Cosmin Popa**, "*Low-Area Tunable CMOS Resistor with Improved Linearity*", The 17th IEEE International Conference on Electronics, Circuits, and Systems, ICECS 2010, Athens, pp. 190-193
51) **Cosmin Popa**, "*Improved Linearity CMOS Active Resistor Based on the Mirroring of the Ohm Law*", The 17th IEEE International Conference on Electronics, Circuits, and Systems, ICECS 2010, Athens, pp. 455-458
52) **Cosmin Popa**, "*Improved Linearity CMOS Differential Amplifiers with Applications in VLSI Designs*", International Symposium on Electronics and Telecommunications, ISETC 2010, Timisoara, pp. 29-32

53) **Cosmin Popa**, "*CMOS Voltage Reference with Superior-Order Curvature-Correction*", International Symposium on Signals, Circuits & Systems, ISSCS 2011, Iasi, Romania, pp. 1-4
54) **Cosmin Popa**, "*Improved Linearity CMOS Differential Structure Using Computational Circuits*", International Symposium on Signals, Circuits & Systems, ISSCS 2011, Iasi, Romania, pp. 1-4
55) **Cosmin Popa**, "*Improved Linearity CMOS Active Resistor Structure Using Computational Circuits*", The Fifth International Conference on Quantum, Nano and Micro Technologies, ICQNM 2011, pp. 67-70
56) **Cosmin Popa**, "*Improved Accuracy Thermal Nanostructure*", IEEE International Conference on Computer as a Tool (EUROCON), 2011, pp. 1-4
57) **Cosmin Popa,** "*Controllable Equivalent Resistance CMOS Active Resistor with Improved Accuracy and Increased Frequency Response*", The 24th European Modeling & Simulation Symposium (EMSS), 2011, pp. 1-4.
58) **Cosmin Popa**, *"CMOS VLSI Linear Analog Computational Circuits"*, The Sixth International Conference on Quantum, Nano and Micro Technologies, ICQNM 2012
59) **Cosmin Popa**, "*Improved Accuracy Thermal Nanostructure*", International Conference "Computer as a Tool", EUROCON 2011, Lisabona, pp. 1-4
60) **Cosmin Popa**, "*Pseudo-Exponential Computational Circuit With Improved Accuracy and Frequency Response*", 35th Jubilee International Convention on Information and Communication Technology, Electronics and Microelectronics, MEET 2012, Croatia, pp. 83-86
61) **Cosmin Popa**, "*Improved Linearity CMOS Active Resistor Structure*", International Conference "Computer as a Tool", EUROCON 2013, Croatia
62) **Cosmin Popa**, "*CMOS Computational Circuits with Improved Performances*", International Conference "Computer as a Tool", EUROCON 2013, Croatia
63) **Cosmin Popa**, "*Synthesis of CMOS Multiplier Structures Using Multifunctional Circuits*", 37th International Convention on Communication and Technology, Electronics and Microelectronics, MEET - Microelectronics, Electronics and Electronic Technology, 2014
64) **Cosmin Popa**, "*Improved Accuracy Current-Mode Analog Function Synthesizer*", 37th International Convention on Communication and Technology, Electronics and Microelectronics, MEET - Microelectronics, Electronics and Electronic Technology, 2014
65) Necula Iustin, **Cosmin Popa, "***Voltage Reference with Second Order Curvature Correction*", Semiconductor Conference (CAS), 2014 International, 2014, pp. 251 – 254;
66) **Cosmin Popa,** "*CMOS Current-Mode Function Generator for Analog Signal Processing*", Signals, Circuits and Systems (ISSCS), 2015 International Symposium on, 2015, pp. 1-4
67) **Cosmin** Popa, "*Improved Linearity CMOS Multifunctional Structure Using Computational Circuits*", 18th Mediterranean Electrotechnical Conference, MELECON 2016
68) **Cosmin Popa,** "*Low-Power Low-Voltage CMOS Analog Signal Processing Circuits Using a Functional Core*", ICECS 2016, pp. 680-683
69) **Cosmin Radu Popa**, **"***Current-Mode CMOS Multifunctional Circuits for Analog Signal Processing***"**, The 34th International Conference on Microelectronics, ICM 2022, 4-7 December 2022, Casablanca, Morocco
70) **Cosmin Radu Popa** "*CMOS Analog Building Blocks Using Nonlinear Circuit Core*", The 34th International Conference on Microelectronics, ICM 2022, 4-7 December 2022, Casablanca, Morocco
71) **Cosmin Radu Popa, "***Exponential Function Generator with Fourth-Order Approximation***"**, 7th European Conference on Electrical Engineering & Computer Science, ELECS 2022, 21-23 December 2022, Bern, Switzerland
72) **Cosmin Radu Popa, "***Low-Voltage Improved Accuracy CMOS VGA Circuit***"**, 7th European Conference on Electrical Engineering & Computer Science, ELECS 2022, 21-23 December 2022, Bern, Switzerland
73) **Cosmin Radu Popa,** "*Improved Linearity CMOS Differential Amplifier with Low-Voltage Low-Power Operation*", 7th European Conference on Electrical Engineering & Computer Science, ELECS 2022, 21-23 December 2022, Bern, Switzerland
74) **Cosmin Radu Popa**, "*Accurate CMOS Active Resistor with Increased Linearity*", International Symposium ELMAR 2023, Zadar, Croatia

3.4. Papers published in proceedings of international conferences

1) **Cosmin Popa**, Andrei Pascu, Radu Zlatanovici,*"Thermally Stabilised Circuit to an Autopolarisation Voltage Reference",* The 7th International Conference on Optimization of Electric and Electronic Equipment, OPTIM 2000, Braşov, România, pp. 727-730
2) **Cosmin Popa**, Andrei Pascu, Radu Zlatanovici, *"Temperature Coefficient Improvement Technique for a Temperature-Compensated Voltage Reference",* The 7th International Conference on Optimization of Electric and Electronic Equipment, OPTIM 2000, Braşov, România, pp. 731-734
3) **Cosmin Popa**, *"Bandgap Voltage Reference with Improved Performances",* The 8th International Conference on Optimization of Electric and Electronic Equipment, OPTIM 2002, Braşov, România, pp. 609-612
4) **Cosmin Popa**, Octavian Mitrea, Anca Manuela Manolescu, Manfred Glesner, *"Linearization Technique for a CMOS Active Resistor",* The 8th International Conference on Optimization of Electric and Electronic Equipment, OPTIM 2002, Braşov, România, pp. 613-616

5) **Cosmin Popa**, "*CMOS Transconductor with Extended Linearity Range*", IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics, A&QT-R 2002, THETA 13, 2002, Cluj-Napoca, România, pp. 349-354

6) **Cosmin Popa**, "*BICMOS Bandgap Reference with Polynomial Curvature Correction*", IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics, A&QT-R 2002, THETA 13, 2002, Cluj-Napoca, România, pp. 396-401

7) **Cosmin Popa**, "A *0.35μm Low-Power CMOS Differential Amplifier with Improved Linearity and Extended Input Range*", The 7th International Workshop on Symbolic Methods and Applications to Circuit Design, SMACD 2002, Sinaia, Romania, pp. 61-64

8) Octavian Mitrea, **Cosmin Popa**, Anca Manuela Manolescu, Manfred Glesner, "*A Curvature-Corrected CMOS Band-gap Reference*" Proc. of Kleinheubacher Tagung, Kleinheubach, Germany, 2002

9) **Cosmin Popa**, *"Low-Voltage Accurate CMOS Threshold Voltage Extractors"*, IEEE-EURASIP Workshop on Nonlinear Signal and Image Processing, Italy, 2003

10) **Cosmin Popa**, *"CMOS Current-Mode Pseudo-Exponential Circuits with Superior-Order Approximation"*, IEEE-EURASIP Workshop on Nonlinear Signal and Image Processing, Italy, 2003

11) **Cosmin Popa**, *"CMOS Computational Circuits using Saturated and Bulk-Driven Weak-Inversion MOS Devices"*, The 4th Electronic Circuits and Systems Conference, ECS '03, Bratislava, Slovacia, 2003

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47) **Cosmin Popa**, Anca Manolescu, "*Auto-Programmable CMOS Integrated Nanostructure with Superior-Order Curvature Corrected Technique*", International Conference on Signals and Electronic Systems, ICSES 2006, Lods, Poland
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COORDINATED RESEARCH PROJECTS:

1. Title: "*Low-Power High-Performances VLSI Structures for Implementing Mathematical Functions and Vectorial Computations: Parameters, Circuit Techniques, Design Algorithms*", funding agency: Romanian National Council of Scientific Research in High Education, total amount: 2,400 Euro, the ongoing period: 2003-2004
2. Title: "*Self-Programmable High-Performances Integrated Thermal Systems Optimized for CMOS Nanometric Technologies with Applications in High-Precison Measurement and Control Equipments*", funding agency: Romanian National Council of Scientific Research in High Education, total amount: 5,000 Euro, the ongoing period: 2005-2006
3. Title: "*High-Speed Improved-Accuracy CMOS VLSI Circuits Optimized for Nanotechnologies, with Applications in Analog Signal Processing*", funding agency: Romanian National Council of Scientific Research in High Education, total amount: 25,000 Euro, the ongoing period: 2005-2007
4. Title: "*Low Power Low Voltage Integrated Nanostructures with Improved Performances for High Precision Applications*", funding agency: Romanian National Council of Scientific Research in High Education, total amount: 25,000 Euro, the ongoing period: 2006-2008
5. Title: "*Modern Techniques for Optimizing the Thermal Behavior of Integrated High Precision Low Voltage Ultra Low-Power Nanoelectronic Systems*", funding agency: Romanian National Council of Scientific Research in High Education, total amount: 25,000 Euro, the ongoing period: 2006-2008
6. Title: "Low-*Power Low-Voltage CMOS Integrated Computational Networks with Performances Optimized for Implementing in Latest CMOS Nanotechnologies*", funding agency: Romanian National Council of Scientific Research in High Education, total amount: 125,000 Euro, the ongoing period: 2007-2010
7. Title: "*Technology of Fabrication of Microbiosensors and Developement of a Portable Detection Device for the Diagnosis of Acute Myocardial Infarction*", UPB coordinator P1