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[1]Samsung Electronics, Korea, South; [2]Sogang University, Korea, South

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[1]Université des Sciences et de la Technologie Houari Boumediène, Algeria;
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Institut Mines-Telecom, Télécom ParisTech, France

C1L-C03 Transient Fault Analysis of CORDIC Processor ... 757
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Institut Mines-Telecom, Télécom ParisTech, France

C1L-C04 A New Fault-Tolerant Architecture for CLBs in SRAM-Based FPGAs ... 761
Arwa Ben Dhia, Lirida Alves de Barros Naviner, Philippe Matherat
Institut Mines-Telecom, Télécom ParisTech, France

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Carlos Gómez Osuna, Miguel Ángel Sánchez Marcos, Pablo Ituero, Marisa López-Vallejo
Universidad Politécnica de Madrid, Spain

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Time: Wednesday, December 12, 09:30 - 11:10
Place: Andalucía 6
Chair: Sergio Bampi, *UFRGS, Brazil*

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Afef Chammem[1], Mihai Mitrea[1], Françoise Prêteux[2]
[1]Institut Mines - Telecom, France; [2]Institut Mines-Telecom, Télécom ParisTech, France

C1L-D02 Bayesian Classification and Artificial Neural Network Methods for Lung Cancer Early Diagnosis 773
Fatma Taher, Naoufel Werghi, Hussain Al-Ahmad
Khalifa University, U.A.E.

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Safa Ouerghi, Fethi Tlili, Amel Benazza-Benyahia
Sup'Com / Carthage University, Tunisia

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Northumbria University, United Kingdom

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University of British Columbia, Canada

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Place: Seville
Chair: Eduard Alarcon, *TU Catalunya (UPC), Spain*

C2L-A01 0.4V Low-Power 60-GHz Oscillator in 65nm CMOS 789
Domenico Pepe[1], Domenico Zito[2]
[1]Tyndall National Institute, Ireland; [2]Tyndall National Institute & University College Cork, Ireland

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Timothy Cronin[2], Domenico Pepe[1], Domenico Zito[2]
[1]Tyndall National Institute, Ireland; [2]Tyndall National Institute & University College Cork, Ireland

C2L-A03 A Low-Power All-Digital PLL Architecture Based on Phase Prediction 797
Jingcheng Zhuang[2], Robert Bogdan Staszewski[1]
[1]Delft University of Technology, Netherlands; [2]Qualcomm, United States

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University of Toronto, Canada

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Lorenzo Mereni[1], Domenico Pepe[1], Domenico Zito[2]
[1]Tyndall National Institute, Ireland; [2]Tyndall National Institute & University College Cork, Ireland

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Time: Wednesday, December 12, 11:30 - 13:10
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Chair: Fernando Corinto, *Politecnico di Torino, Italy*

C2L-B01 Non-Volatile Memory Circuits for FIMS and TAS Writing Techniques on Magnetic Tunnelling Junctions 809
Victor Silva[1], Mário Véstias[2], Horácio C. Neto[1], Jorge Fernandes[1]
[1]INESC-ID / IST / Universidade Técnica de Lisboa, Portugal; [2]INESC-ID/ISEL/IPL, Portugal

C2L-B02 Validation and Analysis of Negative Differential Resistance of Single-Electron Transistor with Conductance Model 813
Xiaobao Chen, Zuocheng Xing, Bingcai Sui
National University of Defense Technology, China

C2L-B03 Low-Noise Dual-Channel Current Amplifier for DNA Sensing with Solid-State Nanopores 817
Marco Carminati[2], Giorgio Ferrari[2], Marco Sampietro[2], Aleksandar Ivanov[1], Tim Albrecht[1]
[1]Imperial College London, United Kingdom; [2]Politecnico di Milano, Italy

C2L-B04 CMOS Active Column Sensor for Biodetection Applications Based on Surface Plasmon Resonance 821
Arnoldo Salazar[2], Sergio Camacho-León[2], Sergio Omar Martínez-Chapa[2], Olivier Rossetto[1]
[1]Laboratoire de Physique Subatomique et de Cosmologie, France; [2]Tecnológico de Monterrey, Mexico

C2L-B05 Modeling and Analysis of Through Silicon via: Electromagnetic and Device Simulation Approach 825
Khaled Salah[3], Alaa Elrouby[3], Hani Ragai[1], Yehea Ismail[2]
[1]Ain-Shams University, Egypt; [2]American University in Cairo, Egypt; [3]Mentor Graphics, Egypt

C2L-C Variability-aware Design and Noise Mitigation

Time: Wednesday, December 12, 11:30 - 13:10
Place: Andalucía 7
Chair: Magdy Bayoumi, *University of Louisiana, USA*

C2L-C01 CEMS-PG: a Parametrized Algorithm for Balanced Partitioning and Wakeup of Power Gated Circuits 829
Salim Farah, Magdy Bayoumi
University of Louisiana at Lafayette, United States

C2L-C02 Static Read Stability and Write Ability Metrics in FinFET Based SRAM Considering Read and Write-Assist Circuits 833
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Yonsei University, Korea, South

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Jae Hoon Kim, Young Hwan Kim
POSTECH, Korea, South

C2L-C04 Uncertainty in DLL Deskewing Schemes 841
Monica Figueiredo[1], Rui Aguiar[2]
[1]Polytechnic Institute of Leiria, Portugal; [2]Universidade de Aveiro, Portugal

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Erika Covi, Alessandro Cabrini, Guido Torelli
Università degli Studi di Pavia, Italy

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Time: Wednesday, December 12, 11:30 - 13:10
Place: Andalucía 6
Chair: Michael Peter Kennedy, *University College, Cork, Ireland*

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Sergio Callegari[2], Federico Bizzarri[1]
[1]Politecnico di Milano, Italy; [2]Università di Bologna, Italy

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Daisaburo Yoshioka
Sojo University, Japan

C2L-D03 On Current Control Method for Single-Phase AC Resistance Spot Welding 857
Kang Zhou, Lilong Cai
Hong Kong University of Science and Technology, China

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Jordi Albo-Canals[2], Giovanni Pazienza[1]
[1]Pazmany University, Hungary; [2]Universitat Ramon Llull, Spain

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Time: Wednesday, December 12, 14:40 - 16:20
Place: Seville
Chair: Eduard Alarcón, *Technical University of Catalunya (UPC), Spain*

C3L-A01 Field Programmable Switched Capacitor Voltage Converter 865
Chao Li, Jordi Cosp, Herminio Martinez-García
Universitat Politecnica de Catalunya, Spain

C3L-A02 A Reconfigurable Buck-Boost Switched Capacitor Converter with Adaptive Gain and Discrete Frequency Scaling Control 869
Libin George, Torsten Lehmann, Tara Hamilton
University of New South Wales, Australia

C3L-A03 Design of a Capacitorless Low-Dropout Voltage Regulator with Fast Load Regulation in 130nm CMOS 873
Antonio David Souza[1], Sergio Bampi[2]
[1]CEITEC-SA Semiconductors / Federal University of Rio Grande do Sul, Brazil;
[2]Universidade Federal do Rio Grande do Sul, Brazil

C3L-B Neural Networks and Nonlinear Circuits

Time: Wednesday, December 12, 14:40 - 16:20
Place: Andalucía 8
Chair: Ricardo Carmona, *IMSE-CNM (CSIC/University of Seville), Spain*

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Vasilis Thanasoulis, Johannes Partzsch, Stephan Hartmann, Christian Mayr, René Schüffny
Technische Universität Dresden, Germany

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[1]Universidad de Cádiz, Spain; [2]Universidad de Sevilla, Spain; [3]Universidad Politécnica de Cartagena, Spain

C3L-B03 Picosecond Pulse Generation with Nonlinear Transmission Lines in 90-nm CMOS for mm-Wave Imaging Applications 885
Paramartha Indirayanti, Wouter Volkaerts, Patrick Reynaert, Wim Dehaene
Katholieke Universiteit Leuven, Belgium

C3L-C Energy Efficient High-level Design and Modeling techniques

Time: Wednesday, December 12, 14:40 - 16:20
Place: Andalucía 7
Chairs: Malgorzata Chrzanowska-Jeske, *Portland State University, USA*
Antonio Acosta, *IMSE-CNM (CSIC/University of Seville), Spain*

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Universite Pierre et Marie Curie, France

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Antonio Artes[1], Jose L. Ayala[1], Francky Catthoor[2]
[1]Complutense University of Madrid, Spain; [2]IMEC, Belgium

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University of Windsor, Canada

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Esmaeil Amini, Zahra Jeddi, Magdy Bayoumi
University of Louisiana at Lafayette, United States

C3L-C05 Energy-Efficient Multi-Task Computing on MPSoCs: a Case Study from a Memory Perspective 905
Rafael Westphal, José Luís Güntzel, Luiz Cláudio Santos
Universidade Federal de Santa Catarina, Brazil

C3L-D Communication Algorithms and Building Blocks

Time: Wednesday, December 12, 14:40 - 16:20
Place: Andalucía 6
Chair: Piedad Brox, *IMSE-CNM (CSIC/University of Seville), Spain*

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Mahmoud Al-Qutayri[1], Saleh Al-Araji[1], Jeedella Jeedella[1], Omar Al-Ali[2], Nader Anani[2]
[1]Khalifa University, U.A.E.; [2]Manchester Metropolitan University, United Kingdom

C3L-D02 Encoding Sequence Design for a Reduced Complexity Time Synchronization Approach for OFDM Systems 913
Leïla Nasraoui, Leïla Najjar Atallah, Mohamed Siala
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C3L-D03 Test Setup for Error Vector Magnitude Measurement on WLAN Transceivers... 917
Vitor Fialho, Fernando Fortes, Manuela Vieira
Instituto Superior de Engenharia de Lisboa, Portugal

C3L-D04 A Hybrid Algorithm for Range Estimation in RFID Systems..... 921
Krishnamohan Thangarajah, Rashid Rashizadeh, Shervin Erfani, Majid Ahmadi
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[1]Universidad de Alcalá, Spain; [2]Universidad Politécnica de Madrid, Spain

C4L-A Sensors and Imagers

Time: Wednesday, December 12, 16:40 - 18:20
Place: Seville
Chair: Eduard Alarcón, *Technical University of Catalunya (UPC), Spain*

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Liang Zhang, Frederic Morel, Christine Hu-Guo, Abdelkader Himmi, Andrei Dorokhov, Yann Hu
Université de Strasbourg, France

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Xintian Shi[2], Roberto Dinapoli[2], Dominic Greiffenberg[2], Beat Henrich[2], Aldo Mozzanica[2], Bernd Schmitt[2], Hans Krüger[3], Heinz Graafsma[1], Alexander Klyuev[1], Alessandro Marras[1], Ulrich Trunk[1]
[1]Deutsches Elektronen Synchrotron, Germany; [2]Paul Scherrer Institute, Switzerland; [3]Universität Bonn, Germany

C4L-A03 Sense/Drive Architecture for CMOS-MEMS Accelerometers with Relaxation Oscillator and TDC 937
Piotr Michalik[2], Jordi Madrenas[2], Daniel Fernández[1]
[1]Baolab Microsystems, Spain; [2]Universitat Politecnica de Catalunya, Spain

C4L-A04 Low Power Time-of-Flight 3D Imager System in Standard CMOS 941
Priyanka Kumar, Edoardo Charbon, Robert Bogdan Staszewski, Andre Borowski
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C4L-A05 A Double-Delta Compensating Technique for Pulse-Frequency Modulation CMOS Image Sensor 945
Tsung-Hsun Tsai, Richard Hornsey
York University, Canada

C4L-B SPECIAL SESSION: Advances in Nanoscale Devices and Circuits: Modeling, Design, Testing

Time: Wednesday, December 12, 16:40 - 18:20
Place: Andalucía 8
Chairs: Spiros Nikolaidis, *Aristotle University of Thessaloniki, Greece*
Abdoul Rjoub, *Jordan University of Science and Technology, Jordan*

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Teresa Serrano-Gotarredona, Bernabe Linares-Barranco
Universidad de Sevilla / Instituto de Microelectrónica de Sevilla, Spain

C4L-B02 Compact Modeling for the Transcapacitances of Undoped or Lightly Doped Nanoscale Cylindrical Surrounding Gate MOSFETs 953
Nikolaos Fasarakis[1], Andreas Tsormpatzoglou[1], D. H. Tassis[1], Konstantinos Papathanasiou[1], Charalabos Dimitriadis[1], Gerard Ghibaudo[2]
[1]Aristotle University of Thessaloniki, Greece; [2]IMEP, MINATEC, France

C4L-B03 Estimating the Starting Point of Conduction in Nanoscale CMOS Gates 957
Dimitrios Tzagkas[1], Spyridon Nikolaidis[1], Abdoul Rjoub[2]
[1]Aristotle University of Thessaloniki, Greece; [2]Jordan University of Science and Technology, Jordan

C4L-B04 Testing Wireless Transceivers' RF Front-Ends Utilizing Defect-Oriented BIST Techniques 961
Lambros Dermetzoglou[1], John Liaperdos[1], Angela Arapoyanni[1], Yiorgos Tsiatouhas[2]
[1]University of Athens, Greece; [2]University of Ioannina, Greece

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Rodrigo Picos, Joan Font-Rossello, Eugeni Garcia-Moreno, Antonio Teruel
Universitat de les Illes Balears, Spain

C4L-C Algorithms and Processors

Time: Wednesday, December 12, 16:40 - 18:20
Place: Andalucía 7
Chair: Javier Castro, *IMSE-CNM (CSIC/University of Seville), Spain*

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Goran Molnar, Mladen Vucic
University of Zagreb, Croatia

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Nikolaos Polychronakis, Dionysios Reisis, Emmanouil Tsilis, Ioannis Zokas
National and Kapodistrian University of Athens, Greece

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Ayush Kumar[2], Nimisha Agarwal[2], Juhi Bhadviya[2], Anil Kumar Tiwari[1]
[1]Indian Institute of Technology Rajasthan, India; [2]LNM Institute of Information Technology, Jaipur, India

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Nimisha Agarwal[2], Ayush Kumar[2], Juhi Bhadviya[2], Anil Kumar Tiwari[1]
[1]Indian Institute of Technology Rajasthan, India; [2]LNM Institute of Information Technology, Jaipur, India

C4L-C05 A Highly Parallelized Processor for Face Detection Based on Haar-Like Features 985
Huabiao Qin, Lianbing Tian, Zongwei Hu
South China University of Technology, China