2014 IEEE Faible Tension Faible Consommation

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Monaco – May 4-6

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Andreas Burg, G. Karakonstantis
EPFL, Switzerland

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Mohamad Sawan
EPM, Canada

Special Session: Signal Processing circuits and systems for Neuroengineering

Indoor Hospital Communication Systems: An Integrated Solution Based on Power Line and Visible Light Communication
Jian Song¹, Wenbo Ding¹, Fang Yang¹, Hui Yang¹, Jintao Wang², Xiaofei Wang², Xun Zhang²
¹Tsinghua University, P. R. China
²ISEP, France

System Level Dimensioning of Low Power Biomedical Body Sensor Networks
Guillaume Terrasson¹, Alvaro Llaria¹, Renaud Briand¹,²
¹ESTIA, France
²Aquitaine Electronique, France

Detection of Steady-State Visual Evoked Potentials Using Simulated Trains of Transient Evoked Potentials
Antoine Gaume, François Vialatte, Gérard Dreyfus
ESPCI, France

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Adam Teman
EPFL, Switzerland

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Hraziia¹, A. Amara¹, A. Vladimirescu¹, C. Anghel¹, O. Thomas²
¹Institut Supérieur d’électronique de Paris, France
²CEA-LETI, MINATEC, France

Anatoli Mordakhay, Alexander Fish
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Chih-Ming Ho
University of California, Los Angeles, USA

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Babak Mohammadi¹, Oskar Andersson¹, Pascal Meinerzhagen², Yasser Sherazi³, Andreas Burg³, Joachim Neves Rodrigues²
¹Lund University, Sweden
²EPFL, Switzerland

Towards asynchronous power management
Danil Sokolov¹, Andrey Mokhov¹, Alex Yakovlev¹, David Lloyd²
¹Newcastle University, UK
²Dialog Semiconductor, UK

Optimization of the area/robustness/speed trade-off in a 28nm FDSOI latch based on ULP diodes
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Yung-Hui Yu¹, Po-Hao Wang¹, Tien-Fu Chen¹, Tay-Jyi Lin², Jinn-Shyan Wang²
¹National Chiao Tung University, Taiwan
²National Chung Cheng University, Taiwan

Power Evaluation of Sobel Filter on Xilinx Platform

Hong. Nguyen.T.K¹,², Cecile. Belleudy¹, Tuan.V.Pham²
¹University of Nice Sophia Antipolis, France
²Danang University of Technology, Vietnam

Discrete Chaos – Based Random Number Generator

Julio Aguilar Angulo¹, Edith Kussener¹, Hervé Barthélemy¹, Benjamin Duval²
¹IM2NP, UMR CNRS 6242, Marseille, France
²INVIA, France

Energy Efficiency of Micropipelines Under Wide Dynamic Supply Voltages

Abdullah Baz, Delong Shang, Fei Xia, Xuan Gu, Alex Yakovlev
Newcastle University, UK

**Keynote:** Si based Tunnel-Field Effect Transistors for Energy Efficient Electronics

Siegfried Mantl
Peter Grünberg Institut-9-IT, Germany

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Invited Paper: Energy-Efficient Logic and SRAM Design: a Case Study

Nele Reynders, Bram Rooseleer, Wim Dehaene
KU Leuven, ESAT-MICAS, Belgium

A Low Voltage Inverter-Based Continuous-Time Sigma Delta Analog-to-Digital Converter in 65nm CMOS Technology

Ahmed Essawy¹, Ayman Ismail²
¹Si-ware Systems, Egypt
²Ain Shams University, Egypt

A Resistor-less Bandgap Reference with Improved PTAT Generator for Ultra-low-power LSIs

Hong Zhang, Dong Li, Qing Wang, Jie Zhang, Chong Li, Ruizhi Zhang
Xi’an Jiaotong University, China

A Distortion Reduction technique for Bootstrapped-Gate MOS Sample-and-Hold Circuits using Body-Effect Compensation

S. Sen, K.A. Shaik, J. Mukherjee, P. Dhalvaniya

1 International Institute of Information Technology Bangalore, India
2 Institut Supérieur d’Electronique de Paris, France
3 Indian Institute of Technology Bombay, India
4 Dhirubhai Ambani-IICT, India

Session 4: Power converters and voltage regulators

Invited Paper: Switched-Capacitor DC/DC Converters for Empowering Internet-of-Things SoCs

Julien De Vos, Denis Flandre, David Bol
Université catholique de Louvain, Belgium

Dual Output Sub-Period Interleaved Step-Up Fibonacci Switched Capacitor Converters

Alexander Kushnerov
Ben-Gurion University of the Negev, Israel

A 65nm 1V to 0.5V Linear Regulator with Ultra Low Quiescent Current for Mixed-Signal ULV SoCs

Guerric de Streel, Julien De Vos, Denis Flandre, David Bol
Université catholique de Louvain, Belgium

High Efficiency Low Power Rectifier Design using Zero Bias Schottky Diodes

Aya Mabrouki, Mohamed Latrach, Vincent Lorrain

1 ESEO, France
2 IETR, France

High Efficiency RF Energy Harvesting with Threshold-Voltage-adjusted Gate Control Diode

Ryo Umesao, Jiro Ida, Masanari Mabuchi, Yuta Kunori, Sou Tashina, Takayuki Mori, Hiroshi Miyagoshi, Keisuke Noguchi, Kenji Itoh
Kanazawa Institute of Technology, Japan

Keynote: Hardware Security Considerations for Low-Energy Digital Circuits and Systems

Mani Soma
University of Washington, USA

Session 5: Signal processing, wireless and security

Invited Paper: SmartEEG : a multimodal tool for EEG signals


1 Sorbonne Universités, UPMC Univ Paris 06, France
2 Université Cergy Pontoise, ENSEA, France
New technique to resolve carrier-phase cycle ambiguity for narrowband low-power systems

Florian Barrau¹, Bruno Paille¹, Edith Kussener², Didier Goguenheim²
¹STMicroelectronics, France
²IM2NP/ISEN, France

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Sébastien Ordas, Mathieu Carbone, Gilles Ducharme, Sébastien Tiran, Philippe Maurine
LIRMM, France

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E. Kussener¹,², J. Aguilar¹,², O. Mainard¹,², D. Goguenheim¹,², G. Oudinet¹, P. Salin³, C. Forni³
¹ISEN Toulon, France
²IM2NP, UMR CNRS 6242, France
³IBDM, UMR CNRS 6216, France

A bidirectional circuit for actuation and readout of resonating sensors

Mehdi Azadmehr, Belal K. Khajeh, Yngvar Berg
Buskerud and Vestfold University College, Norway

Approach to Integrated Energy Harvesting Voltage Source Based on Novel Active TEG Array System

Roman Buzilo¹, Boris Likhterov¹, Robert Giterman¹, Itamar Levi², Alexander Fish², Alexander Belenky¹
¹Ben-Gurion University of the Negev, Israel
²Bar-Ilan University, Israel