2010 Proceedings of the ESSCIRC

Sevilla, Spain
14 – 16 September 2010
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¹Micron Japan, Ltd., Japan; ²Micron Technology Inc., United States

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IMSE-CNM-CSIC, Spain

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¹FBK, Italy; ²Fondazione Bruno Kessler, Italy
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1 Delft University of Technology, Netherlands; 2 NXP Semiconductors, Netherlands; 3 TU Delft, Netherlands

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Intel Corp, United States
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**Date:** Tuesday, September 14, 2010  
**Time:** 17:20 - 18:40  
**Room:** CIRC 2  
**Chairs:** Klaas Bult; *Broadcom*  
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**A 12fJ/Conversion-Step 8bit 10MS/s Asynchronous SAR ADC for Low Energy Radios**  
Pieter Harpe$^1$, Cui Zhou$^1$, Xiaoyan Wang$^1$, Guido Dolmans$^2$, Harmke de Groot$^2$.  
$^1$Holst Centre - IMEC, Netherlands; $^2$IMEC-NL, Netherlands

**An 11b 60MS/s 2.1mW Two-Step Time-Interleaved SAR-ADC with Reused S&H**  
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$^1$University of Macau, Macau; $^2$University of Pavia, Italy

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**A 94dB-SNR-76dB-THD High-Efficiency Hybrid Audio Power-DAC for Loudspeaker (4Ohm/8Ohm) and Earphone (16Ohm/32Ohm)**  
Andrea Baschirotto$^3$, Giacomino Bollati$^1$, Vittorio Colonna$^1$, Gabriele Gandolfi$^2$.  
$^1$Marvell, Italy; $^2$Marvell ITALIA S.R.L., Italy; $^3$University of Milano-Bicocca, Italy

### A6L-G  Power Management

**Date:** Tuesday, September 14, 2010  
**Time:** 17:20 - 18:40  
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**A Photovoltaic System with an Analog Maximum Power Point Tracking Technique for 97.3% High Effectiveness**  
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$^1$National Chiao Tung University, Taiwan; $^2$NCTU, Taiwan; $^3$NCTU, ECE, Taiwan

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$^1$Graz University of Technology, Austria; $^2$Infineon Technologies Austria AG, Austria

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*University of Michigan, United States*

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*EPFL, Switzerland*
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Katholieke Universiteit Leuven, Belgium

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1ST Microelectronics, France; 2Universitat Politècnica de Catalunya, Spain

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1IMEC, Belgium; 2VUB, Belgium

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1TSMC, Taiwan; 2UCLA, United States; 3University of California, Los Angeles, United States

B3L-F TDCs and Timing Circuits

Time-to-Digital Converter with 3-ps Resolution and Digital Linearization Algorithm
Marco Zanuso, Salvatore Levantino, Alberto Fuggelli, Carlo Samori, Andrea Lacaita. 
Politecnico di Milano, Italy

Time-to-Digital Converter Based on Time Difference Amplifier with Non-Linearity Calibration
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University of Tokyo, Japan

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MediaTek, Taiwan

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Samsung Electro-Mechanics, Korea, South

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Katholieke Universiteit Leuven, Belgium
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TU-Delft, Netherlands

A 4.3 mm² 2 ASIC for a 300 °/s 2-Axis Capacitive Micro-Gyroscope
Lasse Aaltonen¹, Antti Kalanti¹, Mika Pulkkinen¹, Matti Paavola¹, Mika Kämäräinen¹, Kari Halonen¹.  
¹Aalto University, Finland; ²Aalto University School of Science and Technology, Finland

An Interface for Eddy Current Displacement Sensors with 15-Bit Resolution and 20 MHz Excitation
Mohammad Reza Nabavi, Michiel Pertijs, Stoyan Nihtianov.
Delft University of Technology, Netherlands

A 160x120-Pixels Range Camera with On-Pixel Correlated Double Sampling and Nonuniformity Correction in 29.1um Pitch
Matteo Perenzoni, Nicola Massari, David Stoppa, Lucio Pancheri, Mattia Malfatti, Lorenzo Gonzo.
Fondazione Bruno Kessler, Italy

Range Finding Sensor in 90nm CMOS with Bridge Correlator Based Background Light Suppression
Milos Davidovic, Gerald Zach, Kerstin Schneider-Hornstein, Horst Zimmermann.
Vienna University of Technology, Austria

A 2.4 GHz Fully Integrated Doherty Power Amplifier Using Series Combining Transformer
Ercan Kaymaksut, Patrick Reynaert.
Katholieke Universiteit Leuven, Belgium

A Highly Linear 25dBm Outphasing Power Amplifier in 32nm CMOS for WLAN Application
Hongtao Xu, Yorgos Palaskas, Ashoke Ravi, Krishnamurthy Soumyanath.
Intel Corporation, United States

A Class-D Outphasing RF Amplifier with Harmonic Suppression in 90nm CMOS
Jonas Fritzin, Christer Svensson, Atila Alvandpour.
Linköping University, Sweden

60GHz Power Amplifier with Distributed Active Transformer and Local Feedback
Ying He¹, Lianming Li², Patrick Reynaert².  
¹ESAT-MICAS, Katholieke Universiteit Leuven, Belgium; ²Katholieke Universiteit Leuven, Belgium
### B5L-F Amplifiers II

**Date:** Wednesday, September 15, 2010  
**Time:** 15:50 - 16:50  
**Room:** CIRC 2  
**Chairs:** Marco Berkhout; NXP  
Franz Dielacher; Infineon

**A Low-Power Orthogonal Current-Reuse Amplifier for Parallel Sensing Applications**  
Ben Johnson, David Detomaso, Alyosha Molnar.  
*Cornell University, United States*

**200 uW CMOS Class AB Unity-Gain Buffers with Accurate Quiescent Current Control**  
Antonio J. Lopez-Martín2, Jose M. Algueta2, Lucia Acosta1, Jaime Ramirez-Angulo1, Ramon G. Carvajal1.  
1New Mexico State University, United States; 2Public University of Navarra, Spain  
**A 470 uW Clock-Free Current-Controlled Class D Amplifier with 0.02% THD+N and 82 dB PSRR**  
Joselyn Torres, Adrian Colli-Menchi, Miguel Rojas-Gonzalez, Edgar Sanchez-Sinencio.  
*Texas A&M University, United States*

### B5L-G Circuits for Implantable Devices

**Date:** Wednesday, September 15, 2010  
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**Chairs:** Manuel Delgado-Restituto; IMSE-CNM  
Andreas Demosthenous; University College London

**A Multi-Channel Low-Power IC for Neural Spike Recording with Data Compression and Narrowband 400-MHz MC-FSK Wireless Transmission**  
Andrea Bonfanti, Maria Ceravolo, Guido Zambra, Riccardo Gusmeroli, Tommaso Borghi, Alessandro Sottocornola Spinelli, Andrea Lacaita.  
*Politecnico di Milano, Italy*

**Micropower Integrated Bioamplifier and Auto-Ranging ADC for Wireless and Implantable Medical Instrumentation**  
Yu Chi, Gert Cauwenberghs.  
*UCSD, United States*

**A DC-Isolated Fine-Controlled Neural Stimulator**  
Xiao Liu, Andreas Demosthenous, Nick Donaldson.  
*University College London, United Kingdom*

### B5L-H mm-Wave Receivers

**Date:** Wednesday, September 15, 2010  
**Time:** 15:50 - 16:50  
**Room:** CIRC 4  
**Chairs:** Andreas Kaiser; IEMN  
Bram Nauta; University of Twente

**A 24 dB Gain 51-68 GHz CMOS Low Noise Amplifier Using Asymmetric-Layout Transistors**  
Ning Li1, Keigo Bunsen2, Naoki Naoki2, Qinghong Bu2, Toshihide Suzuki1, Masaru Sato1, Tatsuya Hirose1, Kenichi Okada2, Akira Matsuzawa2.  
1Fujitsu Laboratories Ltd, Japan; 2Tokyo Institute of Technology, Japan

**A 24-GHz 90-nm CMOS Beamforming Receiver Front-End with Analog Baseband Phase Rotation**  
Andreas Axholt, Henrik Sjölund.  
*Lund University, Sweden*
A Fifth-Order 880MHz/1.76GHz Active Lowpass Filter for 60GHz Communications in 40nm Digital CMOS

Piet Wambacq¹, Vito Giannini¹, Karen Scheir¹, Wim Van Thillo¹, Yves Rolain².
¹IMEC, Belgium; ²VUB, Belgium

B6L-E Memories

Date: Wednesday, September 15, 2010
Time: 17:20 - 18:40
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Chairs: Jos Huisken; IMEC Netherlands
Tobias Noll; RWTH Aachen

0.5-V, 150-MHz, Bulk-CMOS SRAM with Suspended Bit-Line Read Scheme
Toshikazu Suzuki, Shinichi Moriwaki, Atsushi Kawasumi, Shinji Miyano, Hirofumi Shinohara.
Semiconductor Technology Academic Research Center, Japan

A 4.4pJ/Access 80MHz, 2K Word X 64b Memory with Write Masking Feature and Variability Resilient Multi-Sized Sense Amplifier Redundancy for Wireless Sensor Nodes
Vibhu Sharma³, Stefan Cosemans⁴, Maryam Ashouei², Jos Huisken², Francky Catthoor¹, Wim Dehaene⁴.
³IMEC, Belgium; ⁴IMEC-NL, Netherlands; ¹K.U Leuven & IMEC-NL, Belgium; ²KU Leuven & IMEC, Belgium

A 40nm CMOS 260kb SRAM-bitcell on-Chip Failure Monitoring Test Scribe with Integer-to-Current Converter
Brice Lhomme, Yann Carminati, Bertrand Borot, Olivier Callen, Thierry Burdeau, Sylvain Clerc.
STMicroelectronics, France

Crosshairs SRAM - An Adaptive Memory for Mitigating Parametric Failures
Gregory Chen, Michael Wieckowski, David Blaauw, Dennis Sylvester.
University of Michigan, United States

B6L-F Pipeline ADCs

Date: Wednesday, September 15, 2010
Time: 17:20 - 18:40
Room: CIRC 2
Chairs: Patrick Quinn; Xilinx Dublin
Arthur van Roermund; TU Eindhoven

A 2.4 GS/s, 4.9 ENOB at Nyquist, Single-Channel Pipeline ADC in 65nm CMOS
Timmy Sundström, Christer Svensson, Atila Alvandpour.
Linköping University, Sweden

A 11.1-Bit ENOB 50-MS/s Pipelined A/D Converter in 130-nm CMOS Without S/H Front End
Jurg Treichler, Qiuting Huang.
ETH Zurich, Switzerland

A Reconfigurable 10-12b 0.4-44MS/s Pipelined ADC with 0.35-0.5pJ/step in 1.2V 90nm Digital CMOS
Mohammad Taherzadeh-Sani, Anas Hamoui.
McGill University, Canada
### B6L-G  Biomedical Applications

**Date:** Wednesday, September 15, 2010  
**Time:** 17:20 - 18:40  
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**Chairs:** Kari Halonen; Aalto University  
Roland Thewes; TU Berlin

**Enabling Multiple Robotic Functions in an Endoscopic Capsule for the Entire Gastrointestinal Tract Exploration**  
Oscar Alonso, Joan Canals, Luis Freixas, Josep Samitier, Angel Diéguez, Monica Vatteroni, Ekawahyu Susilo, Carmela Cavallotti, Pietro Valdastri.  
1CRIM Lab Scuola Superiore Sant'Anna, Italy; 2University of Barcelona, Spain

**Digital Potentiostat for Electrochemical Bio Sensor Chips**  
Alexander Frey, Philipp Kruppa, Ingo Kuehne, Meinrad Schienle, Norbert Persike, Gerhard Hartwich, Helmut Seidel.  
1Fritz Biochem, Germany; 2Saarland University, Germany; 3Siemens AG, Germany; 4University of Technology Munich, Germany

**A Quadrature Receiver for uNMR Applications in 0.13 um CMOS**  
Jens Anders, Paul Sangiorgio, Giovanni Boero.  
EPFL, Switzerland

### B6L-H  RF Building Blocks

**Date:** Wednesday, September 15, 2010  
**Time:** 17:20 - 18:40  
**Room:** CIRC 4  
**Chairs:** Pietro Andreani; University of Lund  
Andrea Bevilacqua; University of Padova

**A 900µW, 3-5GHz Integrated FM-UWB Transmitter in 90nm CMOS**  
Nitz Saputra, John Long, John Pekarik.  
1IBM, United States; 2TUDelft, Netherlands

**A Sub-3dB NF Voltage-Sampling Front-End with +18dBm IIP3 and +2dBm Blocker Compression Point**  
Jonathan Borremans, Gunjan Mandal, Bjorn Debaillie, Vito Giannini, Jan Craninckx.  
IMEC, Belgium

**A 0.1 - 4GHz Resistive Feedback LNA with Feedforward Noise and Distortion Cancelation**  
Xiao Wang, Wolfgang Aichholzer, Johannes Sturm.  
Carinthia University of Applied Sciences, Austria

**Reliability Assessment of Voltage Controlled Oscillators in 32nm High-K Metal Gate Technology**  
Florian Chouard, Michael Fulde, Doris Schmitt-Landsiedel.  
1Infineon Technologies AG Austria, Austria; 2TU München, Germany

### C3L-F  Oversampled ADCs

**Date:** Thursday, September 16, 2010  
**Time:** 11:20 - 13:00  
**Room:** CIRC 2  
**Chairs:** Andrea Baschirotto; Univ. Lecce  
Luis Hernandez; Univ. Carlos III Madrid

**A 0.13um CMOS 0.1-20MHz Bandwidth 86-70dB DR Multi-Mode DT Delta-Sigma ADC for IMT-Advanced**  
Thomas Christen, Qiating Huang.  
1Advanced Circuit Pursuit (ACP) AG, Switzerland; 2ETH Zurich, Switzerland
A 100kHz-10MHz BW, 78-to-52dB DR, 4.6-to-11mW Flexible SC Sigma-Delta Modulator in 1.2-V 90-nm CMOS

Alonso Morgado, Rocio Del Rio, Jose M. de la Rosa, Lynn Bos, Julien Ryckaert, Geert Van der Plas.
IMEC, Belgium; IMSE-CNMC (CSIC/University of Seville), Spain; IMSE-CNMC CSIC, Spain

A Digitally Calibrated 5mW 2MS/s 4th-Order Delta-Sigma ADC in 0.25um CMOS with 94dB SFDR

Keith O Donoghue, Paul Hurst, Stephen Lewis.
Cypress Semiconductor, Ireland; University of California, Davis, United States

A Configurable Cascaded Continuous-Time Delta-Sigma Modulator with Up to 15MHz Bandwidth

Infineon Technologies AG, Germany; University of Freiburg, Germany; University of Ulm, Germany

A 0.08 mm2, 7mW Time-Encoding Oversampling Converter with 10 Bits and 20MHz BW in 65nm CMOS

Carlos III University of Madrid, Spain; Infineon, Austria; Lantiq, Austria

C3L-G DC/DC Converters

Date: Thursday, September 16, 2010
Time: 11:20 - 13:00
Room: CIRC 3
Chairs: Eduard Alarcon; UPC

A Fully Integrated 74% Efficiency 3.6V to 1.5V 150mW Capacitive Point-of-Load DC/DC-Converter

Tom Van Breussegem, Michiel Steyaert.
K.U.Leuven, Belgium; Katholieke Universiteit Leuven, Belgium

An 8W-2Mhz Buck Converter with Adaptive Dead Time Tolerant to Radiation and High Magnetic Field

Stefano Michelis, Bruno Allongue, Georges Blanchot, Simone Buso, Federico Faccio, Cristian Fuentes, Alessandro Marchioro, Stefano Orlandi, Stefano Saggini, Giorgio Spiazzi, Maher Kayal.
CERN, Switzerland; EPFL, Switzerland; Padova University, Italy; Udine University, Italy

A Sensor Concept for Minimizing Body Diode Conduction Losses in DC/DC Converters

Gerhard Maderbacher, Christoph Sandner, Thomas Jackum, Wolfgang Pribyl.
Graz University of Technology, Austria; Infineon Technologies Austria, Austria

A Single-Inductor Multiple Positive and Negative Outputs (SIMPNO) Converter with a Vector Current Control Mode for Electronic Paper Displays (EPDs)

Yu-Huei Lee, Ming-Hsin Huang, Yu-Nong Tsai, Ming-Yan Fan, Ke-Horng Chen.
National Chiao Tung University, Taiwan

Efficiency Enhanced Single-Inductor Boost-Inverting Flyback Converter with Dual Hybrid Energy Transfer Media and a Bifurcation Free Comparator

JDA Technology, Korea, South; KAIST, Korea, South
C3L-H Wireless Communications

Date: Thursday, September 16, 2010
Time: 11:20 - 13:00
Room: CIRC 4
Chair: Peter Baltus; Technische Universiteit Eindhoven

A 2x2 MIMO Tri-Band Dual-Mode CMOS Transceiver for Worldwide WiMAX/WLAN Applications
Kyoohyun Lim1, Sunki Min1, Sanghoon Lee1, Jaewoo Park1, Kisub Kang1, Hwahyeong Shin1, Hyunchul Shim1, Sechang Oh1, Sungho Kim1, Jongryul Lee1, Changsik Yoo2, Kukjin Chun3.
1FCI, Korea, South; 2Hanyang University, Korea, South; 3Seoul National University, Korea, South

A 0.8V 2.4GHz 1Mb/s GFSK RF Transceiver with On-Chip DC-DC Converter in a Standard 0.18um CMOS Technology
Paulo Augusto Dal Fabbro5, Tindaro Pittorino3, Christoph Kuratli3, Robert Kvacek3, Martin Kucera2, Frederic Giroud5, Steve Tanner6, Frederic Chastellain6, Arnaud Casagrande1, Arthur Descombes3, Vincent Peiris5, Pierre-Andre Farine5, Maher Kayal4
1Asulab, Switzerland; 2CSEM, Switzerland; 3EM Microelectronic, Switzerland; 4EPFL, Switzerland; 5EPFL-ELab, Switzerland; 6EPFL-ESPLAB, Switzerland

A 500uW 5Mbps ULP Super-Regenerative RF Front-End
Maja Vidojkovic2, Simonetta Rampu2, Koji Imamura3, Pieter Harpe1, Guido Dolmans2, Harmke de Groot2
1Holst Centre; 2IMEC-NL, Netherlands; 3IMEC-EL, Netherlands; 4Panasonic, Japan

A 900-MHz Bandwidth Analog Baseband Circuit with 1-dB Step and 30-dB Gain Dynamic Range
Masahiro Hosoya, Yoshiya Mitomo, Osamu Watanabe,
Toshiba Corporation, Japan

A Low-Cost and Low-Power Single-Chip DAB+/DAB/FM Receiver
J.C Hsu2, C.Y Chou2, S.W Chang2, Albert Tseng1
1Keystone Semiconductor Corp., Taiwan; 2Keystone Semiconductor Corp., Taiwan

C3L-E Emerging Memories

Date: Thursday, September 16, 2010
Time: 15:50 - 16:50
Room: CIRC 1
Chairs: Wim Dehaene; KUL Leuven
Tobias Noll; RWTH Aachen

0.5V FinFET SRAM with Dynamic Threshold Control of Pass Gates for Salvaging Malfunctioned Bits
Shint-Ichi O'uchi, Kazuhiko Endo, Yong-Xun Liu, Tatashi Nakagawa, Takashi Matsukawa, Yuki Ishikawa, Junichi Tsukada, Hiromi Yamauchi, Toshihiro Sekigawa, Hanpei Koike, Kunihiro Sakamoto, Meishuku Masahara.
AIST, Japan

A 4 Megabit Carbon Nanotube-Based Nonvolatile Memory (NRAM)
Glen Rosendale, Sohrab Kianian, Monte Manning, Darlene Hamilton, Xue Ming Henry Huang, Karl Robinson, Young Weon Kim, Thomas Rueckes.
Nantero, Inc., United States

A Highly Reliable Multi-Cell Antifuse Scheme Using DRAM Cell Capacitors
Jong-Pil Son2, Jin Ho Kim2, Woo Song Ahn2, Seung Uk Han2, Byung-Sick Moon2, Churoo Park3, Hong-Sun Hwang2, Seong-Jin Jang2, Joo Sun Choi2, Young-Hyun Jun2, Soo-Won Kim1.
1Korea University, Korea, South; 2Samsung Electronics, Korea, South; 3Samsung Electronics, Korea, South
### C5L-F  mm-wave radar and imaging

**Date:**  Thursday, September 16, 2010  
**Time:**  15:50 - 16:50  
**Room:**  CIRC 2  
**Chairs:**  Jean Baptiste Begueret; IMS Lab  
  Patrick Reynaert; K.U. Leuven

**Terahertz Imaging Detectors in a 65-nm CMOS SOI Technology**  
Erik Öjefors\(^1\), Neda Baktash\(^2\), Yan Zhao\(^1\), Richard Al Hadi\(^1\), Hani Sherry\(^1\), Ulrich Pfeiffer\(^2\).  
\(^1\)STMicroelectronics, France; \(^2\)University of Wuppertal, Germany

**Low Power and High Gain Double-Balanced Mixer Dedicated to 77 GHz Automotive Radar Applications**  
Andre Mariano\(^1\), Thierry Taris\(^1\), Bernardo Leite\(^1\), Cedric Majek\(^1\), Yann Deval\(^1\), Eric Kerherve\(^1\),  
Jean-Baptiste Begueret\(^1\), Didier Belot\(^2\).  
\(^1\)IMS Lab, France; \(^2\)ST Microelectronics, France

**A 117mW 77GHz Receiver in 65nm CMOS with Ladder Structured Tunable VCO**  
Roc Berenguer\(^1\), Gui Liu\(^2\), Abe Akhiyat\(^2\), Keya Kamtikar\(^2\), Yang Xu\(^3\).  
\(^1\)CEIT, Spain; \(^2\)University of Washington, United States

### C5L-H  UWB Communications

**Date:**  Thursday, September 16, 2010  
**Time:**  15:50 - 16:50  
**Room:**  CIRC 4  
**Chair:**  Giuseppe Gramegna; CSR

**A 5Mb/s UWB-IR CMOS Transceiver with a 186pJ/b and 150pJ/b TX/RX Energy Request**  
Silvia Soldà, Michele Caruso, Andrea Bevilacqua, Andrea Gerosa, Daniele Vogrig, Andrea Neviani.  
University of Padova, Italy

**A 1 nJ/b 3.2-to-4.7 GHz UWB 50 M pulses/s Double Quadrature Receiver for Communication and Localization**  
Gilles Masson\(^1\), Dominique Morche\(^1\), Helene Jacquinot\(^1\), Pierre Vincent\(^1\), Francois Dehmas\(^1\), Stephane Paquelet\(^1\), Alexis Bisaiaux\(^2\), Olivier Fourquin\(^2\), Jean Gaubert\(^1\), Sylvain Bourdel\(^1\).  
\(^1\)CEA-LETI, France; \(^2\)IM2NP, France; \(^3\)Mitsubishi, France

**RF Spectrum Sensing Technique for Cognitive UWB Radio Network**  
Muhammad Anis\(^1\), Maurits Ortmanns\(^3\), Norbert Wehn\(^1\).  
\(^1\)TU Kaiserslautern, Germany; \(^2\)University of Ulm, Germany; \(^3\)University of Ulm, Germany

### C6L-E  Circuit Design in Emerging Technologies

**Date:**  Thursday, September 16, 2010  
**Time:**  17:20 - 18:40  
**Room:**  CIRC 1  
**Chairs:**  Wim Dehaene; KUL Leuven  
  Angel Rodriguez-Vázquez; IMSE-CNM

**An Organic Integrated Capacitive DC-DC Up-Converter**  
Hagen Marien\(^1\), Michiel Steyaert\(^1\), Soeren Steudel\(^1\), Peter Vicca\(^2\), Steve Smout\(^2\), Gerwin Gelinck\(^1\), Paul Heremans\(^2\).  
\(^1\)HOLST/tno, Netherlands; \(^2\)IMEC, Belgium; \(^3\)Katholieke Universiteit Leuven, Belgium

**A Loading Effect Insensitive and High Precision Clock Synchronization Circuit**  
National Central University, Taiwan

**Glitch-Induced Within-Die Variations of Dynamic Energy in Voltage-Scaled Nano-CMOS Circuits**  
Dina Kamel\(^1\), Cédric Hocquet\(^2\), François-Xavier Standaert\(^1\), Denis Flandre\(^1\), David Boe\(^1\).  
\(^1\)UCL, Belgium; \(^2\)Université catholique de Louvain, Belgium
The Detrimental Impact of Negative Celsius Temperature on Ultra-Low-Voltage CMOS Logic
David Bol, Cedric Hocquet, Denis Flandre, Jean-Didier Legat.
Université catholique de Louvain, Belgium

C6L-F Signal Processing Platforms
Date: Thursday, September 16, 2010
Time: 17:20 - 18:40
Room: CIRC 2
Chairs: Jos Huisken; IMEC Netherlands
        Jose Pineda de Gyvez; NXP

An Energy-Efficient Biomedical Signal Processing Platform
Joyce Kwong, Anantha Chandrakasan.
Massachusetts Institute of Technology, United States

A 757Mb/S 1.5mm^2 90nm CMOS Soft-Input Soft-Output MIMO Detector for IEEE 802.11n
Christoph Studer, Schekeb Fateh, Dominik Seethaler.
ETH Zurich, Switzerland

A 2.17 mm^2 125 mW Reconfigurable SVD Chip for IEEE 802.11n System
National Taiwan University, Taiwan

Low-Power Word-Parallel Nearest-Hamming-Distance Search Circuit Based on Frequency Mapping
Hiroshima University, Japan

C6L-H Optical Communications
Date: Thursday, September 16, 2010
Time: 17:20 - 18:40
Room: CIRC 4
Chairs: Nikos Haralabidis; Broadcom
        Qiuting Huang; ETH Zurich

A 5.5 Gbit/s Optical Receiver in 130 nm CMOS with Speed-Enhanced Integrated Photodiode
Filip Tavernier, Michiel Steyaert.
Katholieke Universiteit Leuven, Belgium

A CMOS Adaptive Equalizer Using Low-Voltage Zero Generators Technique
Yu-Chang Tsai¹, Kuo-Hsing Cheng², Yen-Hsueh Wu³, Ying-Fu Lin¹.
¹Faraday Technology Corporation, Taiwan; ²National Central University, Taiwan

A 10 Gb/S Adaptive Analog Decision Feedback Equalizer for Multimode Fiber Dispersion Compensation in 0.13 µM CMOS
Mahyar Kargar¹, Michael Green¹.
¹University of California, Irvine, United States; ²University of California, Irvine/Broadcom Corporation, United States

A 0.18-µm CMOS 1.25-Gbps Front-End Receiver for Low-Cost Short Reach Optical Communications
Francisco Aznar, Santiago Celma, Belen Calvo.
University of Zaragoza, Spain

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