

# **2012 25th Symposium on Integrated Circuits and Systems Design**

**(SBCCI 2012)**

**Brasilia, Brazil  
30 August – 2 September 2012**



**IEEE Catalog Number: CFP12237-PRT  
ISBN: 978-1-4673-2606-3**

# **SBCCI 2012 List of Papers**

## **Hybrid-on-Chip communication architecture for dynamic MP-SoC protection**

Johanna Sepilveda, Guy Gogniat, Ricardo Pires, Wang J. Chau, and Marius Strum

## **FPGA design for real time flaw detection on edges using the LEDges technique**

Ygo N. Batista, Cristiano C. de Araújo, and Abel G. S. Filho

## **Application-Specific Network-on-Chip Synthesis with Topology-Aware Floorplanning**

Bo Huang, Song Chen, Wei Zhong, and Takeshi Yoshimura

## **Robust Modular Bulk Built-In Current Sensors for Detection of Transient Faults**

Frank S. Torres and Rodrigo P. Bastos

## **Memory and communication driven spatio-temporal scheduling on MPSoCs**

Zubair W. Bhatti, Narasinga R. Miniskar, Davy Preuveneers, Roel Wuyts, Yolande Berbers, and Francky Catthoor

## **Design-Oriented Delay Model for CMOS Inverter**

Felipe S. Marranghello, André I. Reis, and Renato P. Ribas

## **Extended use of Pseudo-Flash Reset Technique for an Active Pixel with Logarithmic Compressed Response**

Carlos A. de M. Cruz, Israel L. Marinho, and Davies W. de L. Monteiro

## **Yield Optimization for Low Power Current Controlled Current Conveyor**

Zia Abbas, Marat Yakupov, Mauro Olivieri, Andreas Ripp, and Gunter Strobe

## **FPGA-based Digital Direct-Conversion Transceiver for Nuclear Magnetic Resonance Systems**

Cecil A. R. de A. Melo and Ricardo E. de Souza

## **A 50MHz-1GHz Wideband Low Noise Amplifier in 130nm CMOS Technology**

Henrique L. A. Pimentel and Sergio Bampi

## **Power Consumption Reduction in MPSoCs through DFS**

Thiago R. da Rosa, Vivian Larréa, Ney L. V. Calazans, and Fernando G. Moraes

## **FPGA Design Methodology for DSP Industrial Applications ñ A Case Study of a Three-Phase Positive-Sequence Detector**

Paulo S. B. Nascimento, Helder E. P. Souza, Francisco A. S. Neves, and Marco A. O. Domingues

## **A Low Complexity Lossless Data Compressor IP-Core for Satellite Images**

Yuri G. Costa, José A. G. de Lima, and Guilherme Navarro

**DPA insensitive voltage regulator for contact smart cards**

Hugo Hernandez, Jonathan Scott, and Wilhelmus van Noije

**A Formally Verified Deadlock-Free Routing Function in a Fault-Tolerant NoC Architecture**

Abdulaziz Alhussien, Nader Bagherzadeh, Freek Verbeek, Bernard van Gastel, and Julien Schmaltz

**On-chip 4to20mA reconfigurable current loop transmitter for smart sensor applications**

Jefferson D. B. Soldera, Julio C. Saldaña, César G. Penteado, Hugo D. Hernandez, Raul Acosta, Fernando C. Porras, Marcos A. Valério, Angélica dos Anjos, and Paulo H. Trevisan

**Multi-Bit Flip-Flop Usage Impact on Physical Synthesis**

Cristiano Santos, Ricardo Reis, Guilherme Godoi, Marcos Barros, and Fabio Duarte

**Partitioning-based Wirelength Estimation Technique for Y-Routing**

Tuhina Samanta, Hafizur Rahaman, and Parthasarathi Dasgupta

**A Very Low Power Area Efficient CMOS Only Bandgap Reference**

Edgar M. C. Galeano, Alfredo Olmos, and Andre L. V. Boas

**Current-Mode Analog Integrated Circuit for Focal-Plane Image Compression**

Fernanda D. V. R. Oliveira, Hugo L. Haas, José G. R. C. Gomes, and Antonio Petraglia

**Topological Impact on Latency and Throughput: 2D versus 3D NoC Comparison**

Yan Ghidini, Thais Webber, Edson Moreno, Ivan Quadros, Rubem Fagundes, and César Marcon

**Differential Mixer with NMOS/PMOS Stack at Switching Stage**

Everson Martins, Matheus A. Alejandro, and Thaís V. Fogaça

**A PLL for clock generation with automatic frequency control under TID effects**

Ricardo V. Dallasen, Gilson I. Wirth, and Thiago H. Both

**A temperature compensated CMOS relaxation oscillator for low power applications**

Jefferson D. B. Soldera, Michael T. Berens, and Alfredo Olmos

**Hardware Pipelining of Runtime-Detected Loops**

Joao Bispo, João M. P. Cardoso, and Jose Monteiro

**Return-to-One Protocol for Reducing Static Power in C-elements of QDI Circuits Employing m-of-n Codes**

Matheus T. Moreira, Ricardo A. Guazzelli, and Ney L. V. Calazans

**A Pragma Based Approach for mapping MATLAB Applications on a Coarse Grained Reconfigurable Architecture**

Omer Malik and Ahmed Hemani

**High Throughput Hardware Design for the Adaptive Loop Filter of the Emerging HEVC Video Coding**

Fabiane Rediess, Cássio Cristani, Pargles Dall'Oglio, Marcelo Porto, and Luciano Agostini

**Hardware and Software Co-Design for the AAC Audio Decoder**

Renato C. Sampaio, Pedro de A. Berger, and Ricardo P. Jacobi

**Top-down Design for Low power Multi-bit Sigma-Delta Modulator**

Heiner A. Cubas and João N. Soares Júnior

**Communication software synthesis from UML-ESL models**

Thiago Cardoso, Edna Barros, Bruno Prado, and Andre Aziz

**Heterogeneous System-Level Modeling for Small and Medium Enterprises**

Seyed H. A. Niaki, Gilmar S. Beserra, Nikolaj Andersen, Mathias Verdon, and Ingo Sander

**A 65nm CMOS 60GHz Class F-E Power Amplifier for WPAN Applications**

Sophie Dréan, Nathalie Deltimple, Eric Kerhervé, Baudouin Martineau, and Didier Belot

**NSP Kernel Finder - A Methodology to Find and to Build Non-Series-Parallel Transistors Arrangements**

Vinicius N. Possani, Felipe S. Marques, Leomar S. da Rosa Junior, Vinicius Callegaro, André I. Reis, and Renato P. Ribas

**Kernel Analysis for Architecture Design Trade Off in Convolution-Based Image Filtering**

Jones Y. Mori, Carlos H. Llanos, and Pedro A. Berger