

Friday, November 7th, 2008

08:00-09:00 REGISTRATION

09:00-10:00 OPENING SESSION

(ROOM "CARTHAGE")

09:00-9:15 Welcome Address

09:15-10:00 Keynote 1

Title: Design and Test of Integrated Circuits in Nano Era: What is next?

Said Hamdioui - Delft University of Technology - Netherlands

Chair : Udo Schwalke - ISTN - Germany

10:00-11:00 BREAK & POSTERS SESSION 1

- **A Method for Estimating the Parameters of the K-Distribution Using a Nonlinear Network Based on Fuzzy System and Neural Networks;** *A. Mezache, M. Sahed;* LSSC, FSI-Algeria.
- **A Low-Power Current-Mode Defuzzifier for Fuzzy Logic Controllers;** *E. Farshidi;* Shahid Chamran University-Iran.
- **Performance of HARQ II and III over multipath fading channels;** *H. Boujemâa, A. Chelly, M. Siala;* HSCT-Tunisia.
- **An optimized analytical electron mobility model based on genetic algorithm computation to study the GaN-based MOSFETs;** *M.A. Abdi, F. Djeflal, N. Lakhdar, T. Bendib, F. Meddour;* LEA, University of Batna- Algeria.
- **Microstrip Design of Low Noise Amplifier for Application in NarrowBand and WideBand;** *M. Challal, A. Azrar, D. Vanhoenacker Janvier;* DGEE FSI-Algeria, EMIC-Belgium.
- **Analysis of rectangular microstrip antenna using high temperature superconducting (HTS) patch;** *M. Amir, T. Fortaki, F. Chebbara, L. Djouane;* University of Batna-Algeria.
- **Influence of antenna parameters on the radiation of a rectangular microstrip patch antenna;** *F. Chebbara, T. Fortaki, M. Amir, L. Djouane;* University of Batna, University of Constantine-Algeria.
- **Chaotic UWB Communicatins for Low Rate WPAN Applications;** *N. Rebhi, G. zaibi, A. Kachouri, P. Chargé, D. Fournier-Ptrunaret;* LETI- Tunisia, LATTIS-France.

11:00-12:40 SESSION 1

11:00-12:40 Session 1A: Automatic Control

(ROOM "BULLA REGIA")

**Chairs : Mohamed Adel Alimi – ENIS – Tunisia
Farhat Fnaiech – ESSTT - Tunisia**

- **Low-Power Current-Mode Linguistic-Hedge Circuits for Fuzzy Logic Controllers;** *E. Farshidi;* Shahid Chamran University-Iran.
- **Performance Evaluation of Fuzzy Controller for Traffic Stabilization;** *J. Bhar, M. Zaidi, R. Ouni, S. Nasri;* FSM-Tunisia.
- **Design procedure of a distance based Fuzzy Sliding Mode Control for buck converters;** *A. Sahbani, K. Ben Saad, M. Benrejeb;* ENIT-Tunisia.

- **The Mixed H2/H₂8734; initial controller for Enhancing the Youla Parameterization via LMI Optimization;** *S. Ziani, S. Filali, A. Djebabla;* LARC-Algeria.
- **A Sliding mode control applied to whiling pendulum;** *S. Mahjoub, F. Mnif, N. Derbel;* ENIS-Tunisia.

11:00-12:40 Session 1B: VLSI and CMOS Circuits (ROOM "UTIQUE")

Chairs : Robert Suszynski – Koszalin University- Poland
Mounir Samet – ENIS – Tunisia

- **VLSI Hardware Evaluation of the Stream Ciphers Salsa20 and ChaCha, and the Compression Function Rumba;** *L. Henzen, F. Carbognani, N. Felber, W. Fichtner;* ISL-Switzerland.
- **A Methodology for Parabolic Synthesis of Unary Functions for Hardware Implementation;** *E. Hertz, P. Nilsson;* Lund University-Sweden.
- **A 20-GHz 130-nm CMOS Front-End using Baluns on Glass Carrier;** *M. Törmänen, H. Sjöland;* Lund University-Sweden.
- **A Q- and Bandwidth-Enhancing Design Technique for Active Inductors using Parasitic Cancellation;** *A. Ahmed, J. Wight;* Carleton University-Canada.
- **Simple Realization of CMOS Current-Mode Wheatstone Bridge;** *E. Farshidi;* Shahid Chamran University-Iran.

11:00-12:40 Session 1C: Image Processing (ROOM "DOUGGA")

Chairs : Amor Keziou – University of Reims Champagne-France
Abdennaceur Kachouri – ENIS – Tunisia

- **Obstacle localization with a binarized v-disparity map using local maximum frequency values in stereo vision;** *C.H. Lee, Y.C. Lim, S. Kwon, J.H. Lee;* DGIST-Korea.
- **A Multiplication-free Transform for Image Compression;** *S. Bouguezal, M. Omair Ahmad, M.N.S. Swamy;* University of Setif-Algeria, Concordia University -Canada.
- **Estimation of the Mass Function in the Dempster-Shafer's Evidence Theory using Automatic Thresholding for Color Image Segmentation;** *S. Ben Chaabane, F. Fnaiech, M. Sayadi, E. Brassart;* ESSTT-Tunisia, LTI-UPRES-France.
- **Combined blur and RST invariant digital image watermarking using complex moment invariants;** *H. Ji, J. Zhu, H. Zhu;* East China University of Science and Technology-China.
- **Corner Detector Based on 2D Infinite Symmetric Exponential filter;** *Z. Ahmed, M. sayadi, F. Fnaiech;* ESSTT-Tunisia, University of Picardie-France.

12:40-14:00 LUNCH

14:00-15:40 SESSION 2

14:00-15:40 Session 2A: Nanotechnology and Microsystems (ROOM "UTIQUE")

Chairs : Udo Schwalke - ISTN - Germany
Farid Boussaid – UWA–Australia

- **A 4x4 Tin Oxide Gas Sensor Array based on Spike Sequence Matching;** *K. Ting Ng, B. Guo, D. Martinez, F. Boussaid, A. Bermak;* UWA–Australia, Hong Kong University- Hong Kong, LORIA-France.
- **Emerging Hybrid Nanoscale Fabrics Based on Crossbar array Architecture;** *N. Zaidi Haron, S. Hamdioui;* Delft University of Technology-Netherlands.

- **Analysis of trap states effects on the frequency-dependent capacitance and conductance of an AlGaIn/GaN heterostructure;** *A. Telia, A. Meziani, A. Soltani*; University of Mentouri -Algeria, I E M N-France.
- **A Novel Design of Photonic Band Gap by F.W.C.I.P Method;** *M.k. Azizi, N. Sboui, F. Choubani, A. Gharsallah*; FSM-Tunisia.
- **Wide-range RF MEMS variable inductor using Micro Pump actuator;** *I. Gmati, H. Boussetta, M.A. Kallala, K. Besbes*; FSM-Tunisia.

14:00-15:40 Session 2B: SOC Design (ROOM "DOUGGA")

**Chairs : Jorma Skyttä – Helsinki University of Technology-Finland
Rached Tourki – FSM – Tunisia**

- **Performance Modeling and Estimation along an MPSoC Flow;** *K. Smiri, A. Jemai, I. Bennour*; FST, FSM-Tunisia.
- **ILP Platform Optimization of a YAPI parallel H264/AVC encoder;** *A.C. Ammari, A. Jemai, H. Krichene Zrida, M. Abid*; INSAT, ENIS-Tunisia.
- **On Hardware implementation of DCT and IDCT for Image Processing;** *W. Elhamzi, T. Saidani, M. Atri, R. Tourki*; FSM- Tunisia.
- **Co-design implementation of wireless Bio-Implant for Real-time control and monitoring;** *L. Khriji, N. Hamza, Farid Touati*; Sultan Qaboos University-Oman.
- **VHDL Generation of Optimized FIR Filters;** *F.F. Daitx, V.S. Rosa, E. Costa, P. Flores, S. Bampi*; UFRGS–Brazil, TULisbon-Portugal.

14:00-15:40 Session 2C: Signal Processing 1 (ROOM "BULLA REGIA")

**Chairs : Omair Ahmad - Concordia University -Canada
Abdennaceur Kachouri – ENIS – Tunisia**

- **Low Power Implementation of Digital Filters Using DBNS Representation and Sub-expression Sharing;** *R. Kacem, N. Khouja, K. Grati, A. Ghazel*; CIRTA'COM-Tunisia.
- **Signal Processing for Digital Recording on Patterned Media;** *J.K. Wolf*; CMRR University of California-USA.
- **Digital Filtering of Band-limited Signals using Periodic Nonuniform Sampling;** *K. Tzvetkov, A. Tarczynski*; University of Westminster-UK.
- **Multiscale Deconvolution using Wavelet Transform for Improving the Depth Resolution in Secondary Ion Mass Spectrometry Analysis;** *M. Boulakroune, D. Benatia, A. El Oualkadi*; FES-Algeria, ENSA-Morocco.

15:40-16:40 BREAK & POSTERS SESSION 2

- **Modeling of thermal-conductivity of smart humidity sensor;** *S. Kouada, Z. Dibi, F. Meddour*; University of Batna-Algeria.
- **Analysis of an EBG filter Using an iterative method;** *T. Ibn Elhaj Brahim, H. Zairi, A. Gharsallah, H. Baudrand*; FST- Tunisia, ENSEEIHT-France.
- **Modeling of passive and nonlinear microwave structures using temporal iterative method;** *M. Ltaifi, H. Trabelsi, F. Choubani, A. Gharsallah*; FST, HSCT- Tunisia.
- **Nth Order Voltage Mode Low-Pass Filter Using Current conveyors;** *N. Bouaziz El Feki, D. Sellami Masmoudi, N. Derbel*; ENIS-Tunisia.
- **Design of a NoC-router guaranteeing QoS based on Virtual Channels reservation;** *M. Horchani; M. Atri, R. Tourki*; FSM- Tunisia.

- **Modeling of Transaction Level SystemC Modules and Transactional Channels with Petri nets;** *I. Bennour, R. Tourki*; FSM- Tunisia.
- **Signaling approach for NOC quality of service requirements;** *M.L. Kaddachi, A. Soudani, R. Tourki*; FSM-Tunisia.
- **Optimum detection of data modulated m-sequences using triple correlation receiver;** *M. Gouda, A. Abdin, E. Essawy*; Misr University for Science & Technology, Shorouk Academy Cairo -Egypt.

16:40-18:20 SESSION 3

16:40-18:20 Session 3A: FPGA Design (ROOM "UTIQUE")

**Chairs : Costa Efstathiou - TEI of Athens-Greece
Imed Bennour – FSM – Tunisia**

- **Anti_Pain stimulator using FPGA circuit;** *W. Benzaba, R. Boutaleb, A. Allam, F. Ykhlef, M. Benchrif, L. Bendaouia, Y. Boucetta*; ATDCA Baba Hacem Algiers-Algeria.
- **An FPGA based 1-Bit all digital transmitter employing Delta-Sigma modulation with RF output for SDR;** *K.A. Shehata, M.A. Aboul Dahab, S.H. El Ramly, K.A. Hamouda*; Arab Academy for Science and Technology, Ain Shams University -Egypt.
- **A reconfigurable FPGA implementation of an LDPC decoder for unstructured codes;** *S.M.E. Hosseini, K. Sann Chan, W. Ling Goh*; Nanyang Technological University, STAR-Singapore.
- **A Secure Elliptic Curve Digital Signature Scheme for Embedded Devices;** *W. El hadj youssef, M. Machhout, R. Tourki*; FSM-Tunisia.
- **A secure Spreader/Despreader for Code Division Multiple Access applications;** *A. Mahfouz, K. Shehata, M. Hanna*; NTI, AAST-Egypt.
- **On the hardware design of elliptic curve public key cryptosystems using programmable cellular automata;** *Z. Guitouni, M. Machhout, R. Tourki*; FSM-Tunisia.

16:40-18:20 Session 3B: Telecommunications 1 (ROOM "DOUGGA")

**Chairs : Tao Lin - University Shanghai-China
Chiheb Rebai – SUPCOM – Tunisia**

- **Effects of Intersymbol Interference on Chaos-Based Modulations;** *F.J. Escibano, L. López, M.A.F. Sanjuán*; Universidad de Alcalá de Henares, Universidad Rey Juan Carlos-Spain.
- **On the Performance Analysis of FSK Using Differential Detection over Hoyt Fading Channels;** *N. Hajri, N. Youssef*; SupCom-Tunisia.
- **Simulation, Modeling, and Performance Analysis of IEEE 802.16e OFDMA Systems for Urban and Rural Environments;** *C. Koliopanos, S. Chronopoulos, A.M. Tzechilidou, C.T. Angelis*; Technological Educational Institute of Epirus-Greece.
- **The Modulation Recognition Approaches For Software Radio;** *N. Alyaoui, H. Ben Hnia, A. Kachouri, M. Samet*; LETI ENIS-Tunisia.
- **Capacity Performances of Space-Time Beamformers for Space-Time Arrayed VIVO DS-CDMA System;** *S. Ghnimi, A. Gharsallah*; FST-Tunisia.

Saturday, November 8th, 2008

08:00-09:00 REGISTRATION

09:00-09:45 Keynote 2 (ROOM "CARTHAGE")

Title: Nanotechnology: The Power of Small

Udo Schwalke - ISTN - Germany

Chair : Said Hamdioui - Delft University of Technology - Netherlands

09:45-10:45 BREAK & POSTERS SESSION 3

- **Voice Disorders Classification Using Multilayer Neural Network;** L. Salhi, M. Talbi, A. Cherif; FST-Tunisia.
- **Enhancing Image Processing Capability by Memory Compression;** R. Baghdadi, M. Koudil, S. Niar; INI- Algeria.
- **Improved Vortex Flow Meter using Pre-Filter;** M. Akresh, W.D. Walker, L. Reindl; IMTEK-Germany.
- **Optimal signals for MIMO RADAR in the Presence of Clutter;** T. Naghibi, F. Behnia; Sharif University-Iran.
- **DS-CDMA Receiver using Switched-Capacitor Analog Correlator Circuit for Parallel Processing System LSIs;** M.A.R. Eltokhy; Helwan University- Egypt.
- **Planning Base Station Location for the UMTS Network;** S. Amara, H. Boujemaa, M. Siala; HSCT-Tunisia.
- **A Systematic Design Procedure for Log-Domain Filters based on Nonlinear Transconductance;** E. Farshidi; Shahid Chamran University-Iran.
- **Timing Characterization and Layout of a Low Power Differential C2MOS Flip Flop in 0.35 μ m Technology;** A. Dendouga, N. Bouguechal, S. Barra, O. Manck; Batna University- Algeria, Technique University of Berlin-Germany.

10:45-12:25 SESSION 4

10:45-12:25 Session 4A: Telecommunications 2 (ROOM "UTIQUE")

Chairs : Constantinos Angelis – Tech. Edu. Institute of Epirus-Greece
Francisco Escribano – Universidad de Alcalá de Henares-Spain

- **Large Reflector Antenna Analysis by Matrix Compression Using Wavelets;** M. Lashab, C. Zebiri, F. Benabdelaziz; University of Skikda, Université de Mentouri-Algeria.
- **Mutual Coupling in Phased Arrays For 3x4 Butler Matrices Antenna Network;** M. Traii, A. Gharsallah; FST-Tunisia.
- **Radar Signal Detection using Fractal Analysis in K-Distributed Clutter;** S. Cherouat, F. Soltani; University of Constantine- Algeria.
- **Convex Optimization and MIMO RADAR Waveform Design in the Presence of Clutter;** T. Naghibi, F. Behnia; Sharif University-Iran.
- **Optimized Decimation Filter Architecture for 5th Order $\Sigma\Delta$ Converter in GSM/ UMTS/ Wi-max Radio Receiver;** M. Jebalia, C. Rebai, B. Legal, D. Dallet; SupCom-Tunisia, ENSEIRB -France.

10:45-12:25 Session 4B: Analog Circuits

(ROOM "DOUGGA")

**Chairs : Khaled Shehata - Arab Academy for Science and Tech.- Egypt
Abdulhakim Ahmed – Carleton University-Canada**

- **Speed-Power-Resolution Tradeoff in Switched-Capacitor Analog Correlator circuit;** *M.A.R. Eltokhy*; Helwan University-Egypt.
- **Current Mode Building Blocks for 8 bit Pipelined A/D Converter;** *K. Wawryn, R. Suszynski, B. Strzeszewski*; Koszalin University- Poland.
- **A Current-Mode True RMS-DC Converter based on Electronically Simulated Translinear Principle;** *E. Farshidi*; Shahid Chamran University –Iran.
- **Effect of the Integrator Settling Behavior on SC $\Sigma\Delta$ Modulator Characteristics: a Theoretical Study;** *A. Pugliese, F.A. Amoroso, G. Cappuccino, G. Cocorullo*; University of Calabria- Italy.
- **High Order Single-bit Delta Sigma Modulator for Fractional-N Frequency Synthesis in Multi-Standard Transceiver;** *A. Abeda, M. Ben-Romdhane, C. Rebai*; SupCom-Tunisia.

12:25-14:00 LUNCH

14:00-00:00 Social event & Gala Dinner.

Sunday, November 9th, 2008

08:30-09:50 *SESSION 5*

08:30-09:50 **Session 5A : Signal processing 2** (ROOM "UTIQUE")

**Chairs : Jack Wolf - CMRR University of California-USA.
Amor Keziou – University of Reims Champagne-France**

- **Analysis of Waveguides Structures Using 3-D Reduction Meshing Applied in Finite-Element Time-Domain (RM-FETD);** *A. Ben Ali, A. Gharsallah;* FST-Tunisia.
- **A New Parametric Transform;** *S. Bouguezel, M.O. Ahmad, M.N.S. Swamy;* University of Setif – Algeria, Concordia University-Canada.
- **Evaluation of Several Reconstruction Methods of Bandlimited Signals;** *B.I. Ahmad, A. Tarczynski;* University of Westminster-UK.
- **A perceptual based input decorrelation for monophonic acoustic echo cancellation;** *K. Essafi, S. Ben Jebara;* SupCom-Tunisia.

08:30-09:50 **Session 5B: Telecommunications 3** (ROOM "DOUGGA")

**Chairs : Ali Nazar - Khalifa University-United Arab Emirates
Abdulahkim Ahmed – Carleton University-Canada**

- **Angle and time of arrival statistics for an hollow-disc and elliptical scattering models;** *I. Jaafar, H. Boujemâa, M. Siala;* SupCom-Tunisia.
- **Pseudo-random Direct Sampler for Frequency Down-Conversion in a Multi-standard Receiver;** *A. Maalej, C. Rebai, M. Ben-Romdhane, A. Ghazel;* SupCom-Tunisia.
- **A new solutions for micro-mobility management in 802.11 Wireless LANs using FPGA;** *M. Zaidi, J. Bhar, R. Ouni, R. Tourki;* FSM-Tunisia.
- **Design Considerations For Wireless Underwater Communication Transceiver;** *N. Nasri, A. Kachouri, L. Andrieux, M. Samet;* ENIS-Tunisia, LATTIS-France.

09:50-10:50 *BREAK & POSTERS SESSION 4*

- **A Suitable State Formulation of the CPM Demodulation problem for several optimal Bayesian Tracking Filters;** *R. Amara;* ENIT-Tunisia.
- **Non Uniform Sampled Signal Reconstruction for Software Defined Radio Applications;** *H. FARES, M. Ben-Romdhane, C. Rebai;* Supcom-Tunisia.
- **Design and Implementation of 2.5 GBPS Pipelined Digital Encoder for flash A/D Converters;** *K.A. Shehata, H. Hussien, H. F. Ragai;* Arab Academy for Science and Technology- Egypt.
- **Investigation of Harmonic Radiation Control of Active Patch Antennas;** *T. Nazar Ali, M. Kahtan, N.J. McEwan, E.A. Elkhazmi;* Khalifa University-United Arab Emirates.
- **An easy made pinch grip sensor to quantify fingertip pressure;** *S. Boukhenousand, M. Attari;* FEC, USTHB- Algeria.
- **An optimized microcontroller-based architecture for multi-purpose wireless biomedical system using ZigBee Technology;** *N. Hamza, L. Khriji, F. Touati;* Sultan Qaboos University- Oman.
- **Performance Modeling and Estimation along an MPSOC Flow;** *K. Smiri, A. Jemai, I. Bennour;* LIP2 FST-Tunisia.
- **Layout Based Method to Diagnose Intra-gate Defects in Presence of Multiple-Fault;** *A. Ladhar, M. Masmoudi, L. Bouzaida;* STMICROELECTRONICS, ENIS -Tunisia.

- **Estimation of Multipath Parameters Using Prony Technique and Three Intensity Records;** *S.K.M. Shanshal*; University of Mosul- Iraq.
- **Fusion at the Feature Level for Person Verification based on off Line Handwriting and Signature;** *A. Ben Khalifa, N. Essoukri Ben Amara*; ENIT, ENISo-Tunisia.

10:50-12:30 SESSION 6

10:50-12:30 Session 6A: Signal processing 3 (ROOM "UTIQUE")

**Chairs : Paulo Flores - INESC-ID/IST TULisbon-Portugal
Ali Gharsallah – FST-Tunisia**

- **Achieving Re-Loss-Free Video Coding in A Class of H.264 Like Hybrid Coding;** *T. Lin*; Tongji University Shanghai-China.
- **Speech Denoising by adaptive weighted average filtering in the EMD framework;** *k. khaldi, M. Turki-Hadj Alouane, A.O. Boudraa*; ENIT- Tunisia, ENSIETA-France.
- **A new EMD denoising approach dedicated to voiced speech signals;** *k. khaldi, M. Turki-Hadj Alouane, A.O. Boudraa*; ENIT- Tunisia, ENSIETA-France.
- **A new criterion for second order cyclostationary blind source separation;** *A. Keziou, M.S. Ould Mohamed, H. Fenniri, G. Delaunay*; University of Reims Champagne-France.

10:50-12:30 Session 6B: System design and Test (ROOM "DOUGGA")

**Chairs : Robert Suszynski - Koszalin University- Poland
Said Hamdioui – Delft University of Technology - Netherlands**

- **Efficient Dedicated Multiplication Blocks for 2's Complement Radix-16 and Radix-256 Array Multipliers;** *L.Z. Pieper, A.C.E. da Costa, S. Bampi, J.C. Monteiro*; UCPel, UFRGS, INESCID-Brazil.
- **On the modulo $2n+1$ multiplication for diminished-1 operands;** *C. Efstathiou, I. Voyiatzis, N. Sklavos*; TEI of Athens-Greece.
- **Wearable Authentication Device for Transparent Login in Nomadic Applications Environment;** *S. Ojala, J. Keinänen, J. Skyttä*; Helsinki University of Technology-Finland.
- **Extraction and Simulation of Potential Bridging Faults and Open Defects Affecting Standard Cell Libraries;** *A. Ladhar, M. masmoudi, L. Bouzaida*; STMicroelectronics, ENIS-Tunisia.
- **BIST Enhancement for Detecting Bit/Byte Write Enable Faults in SOC SRAMs;** *S. Hamdioui, Z. Alars, J. Jimenez, J. Calero*; Delft University of Technology- Netherlands.
- **Memory BIST area estimator using Artificial Neural Networks;** *A. Lamine, N. Chouba, L. Bouzaida*; STMicroelectronics, Tunisia.

12:30-12:40 Closing Session (ROOM "UTIQUE")

12:40-14:00 LUNCH