

EDS IMAPS CS 2005

Final Conference Schedule

THURSDAY 15th September 2005

8:00 - 12:30 **REGISTRATION**

LECTURE ROOM A

9:00 - 12:30 **CONFERENCE OPENING**

PLENARY SESSION

Chairmans: J.Sikula , V.Musil

Invited paper

Erwin Welleman:

Trends & Evolutions in Information, Communication and Security Technologies

COFFEE BREAK

Invited paper

M. Tacano, J. Sikula, J. Pavelka, V. Sedlakova, S. Hashiguchi, M. Toita:

RTS Noise in Submicron MOSFETs : Low and High Field Effects

Invited paper

S. Hashiguchi:

Improvement of Supply Voltage Rejection of IC Amplifier

12:30 – 13:30 **LUNCH**

SESSIONS

LECTURE ROOM A

LECTURE ROOM B

13:30 - 15:10 **Session I.**

Chairman: J. Vanneuille

Simplification before generation using sparse matrices

Horák, Kolka, Brno University of Technology, Brno, Czech Republic

Nonlinear oscillator and its circuitry implementation using general impedance converter

Petržela, Hanus, Brno University of Technology, Brno, Czech Republic

The piecewise-linear approximation using genetic algorithm

Pospíšil, Kolka, Brno University of Technology, Brno, Czech Republic

Local Lifetime Control in Advanced Silicon Power Devices: Influence of Post-Irradiation Annealing

Komarnitsky, Hazdra, Czech Technical University in Prague, Czech Republic

Noise-suppressing filter for LISN

Hájek, Czech Technical University in Prague, Czech Republic

Session II.

Chairman: J. Brzobohaty

Schottky Gate Contacts for AlGaIn/GaN Based HEMTs

Lalinský, Vanko, Gregušová, Mozolová, Haščík, Kordoš, Slovak Academy of Science, Bratislava

The New Background Calibration Technique for Pipelined ADC Using Switched-capacitor Approach

Háze, Vrba, Brno University of Technology, Brno, Czech Republic

Noise and nonlinearity characterization of the polymer based and cermet thick resistive films

Sedláková, Šikula, Brno University of Technology, Brno, Czech Republic

Evaluation of foil capacitor nonlinearities and fluctuations during manufacturing

Hasse, Rogala, Šikula, Spiralski, Gdansk University of Technology, Poland

ZigBee Device Design

Sajdl, Bradáč, Fiedler, Hynčica, Vrba, Brno University of Technology, Brno, Czech Republic

15:10 - 15:40 **COFFE BREAK**

15:40 - 16:40	Session III. Chairman: D. Biolek Modeling and Design of a Novel Architecture of Delta-Sigma Converter for Sensor Measurement Fujcik, Vrba, Mougel, Kuncheva, Brno <i>University of Technology, Brno, Czech Republic</i> Parametric identification of time-variant dynamic systems with utilization of orthonormal functions Macho, Brno University of Technology, Brno, Czech Republic Testing of complex digital system Zdrálek, Technical University of Ostrava, Czech Republic	Session IV. Chairman: R. Kinder Structural Features of WO₃ Thin Film Sensing Layers Deposited with Interruptions Khatko, Vallejos, Calderer, Llobet, Correig, Universita Rovira i Virgili, Tarragona, Spain Temperature balanced process media energy activity monitoring Řezníček Z., Tvarožek, Szendiuch, Řezníček M. HIT Ltd, Nedachlebice, Czech Republic Thin Film Sensor Layers and Kinetic Properties Komenda, Myslík, Vrňata, Fitl, Institute of Chemical Technology, Prague, Czech Republic
17:00 - 17:45	General Meeting of IMAPS Czech & Slovak Chapter	
18:15	Meeting of EDS IMAPS 2005 participants on Technická 8	
18:30	Bus departure from Technická 8 to Hustopeče, Wine Cellar "U Vrbů"	
19:30 - 23:00	Social Evening	

FRIDAY 16th September 2005

SESSIONS - LECTURE ROOM A

9:30 - 10:40	Session V. Chairman: F. Urban Design, implementation and evaluation of a test chip and a dedicated data acquisition system for reliability study of high current first level interconnections Gevaert, Lambert, Barton, Horky, Vanneuville, IMEC, KBHO, Belgium Architecture & Design of Distributed Electronic Testing Cluster (DeTC) based on Microsoft .NET Framework Rahnev, Pavlov, Rahneva, Technical University of Sofia, Plovdiv, Bulgaria Optimized Design of Analogue Circuits Using DE Algorithms Martinek, Maršík, Czech Technical University in Prague, Czech Republic	
10:40 - 11:00	COFFE BREAK	
11:00 - 12:40	Session VI. Chairman: I. Szendiuch The Methods of Control of the Double-Fed Machine Pittermann, Bárta, The University of West Bohemia in Pilsen, Czech Republic Matrix Converter PWM Strategy Lettl, Flígl, Czech Technical University in Prague, Czech Republic Modeling of switched DC-DC converters by mixed s-z description Biolek, Biolková, Brno University of Technology, Brno, Czech Republic Design of Apodized-Chirped Fiber Bragg Gratings Based on Layered Dielectric Media and Transfer Matrix Methods Helán, Urban, Mikel, Brno University of Technology, Brno, Czech Republic Solar cells testing using fast transients Boušek, Brno University of Technology, Brno, Czech Republic	
12:40 - 13:30	LUNCH	
13:30 - 17:00	POSTERS SESSION and GOAL ATTEMPT	

Note:

1. Oral Presentation of every participant's should take 20 min.
2. The poster hall will be opened: Thursday, 15th September from 9:00 to 18:30
Friday, 16th September from 9.00 to 17:00.
3. The posters should be available for participants and visitors during this time.

POSTERS SESSION : Friday; 13:30 - 17:00 / P01-P73

- P01 V/F Converter for the Pressure Sensors and Wireless Applications**
Bouřa, Husák, *Czech Technical University in Prague, Czech Republic*
- P02 Automatic Generation of Design Equations**
Kolka, *Brno University of Technology, Brno, Czech Republic*
- P03 Embedded Data Tester for FSO Links**
Kolka, *Brno University of Technology, Brno, Czech Republic*
- P04 Wide Current Range Potentiostat**
Havlíček, *Brno University of Technology, Brno, Czech Republic*
- P05 A Hybrid Step Motor Drive System with High Positioning Accuracy**
Mikhov, Nakov, *Technical University of Sofia, Bulgaria*
- P06 Refined Active Blocks Suitable for Conveyor Structures**
Šponar, Vrba, Kubánek, *Brno University of Technology, Brno, Czech Republic*
- P07 Peak to Average Power Ratio Reduction in MC-CDMA via Spreading Code Selection**
Fedra, Šebesta, *Brno University of Technology, Brno, Czech Republic*
- P08 Numerical analysis and test of vibrational minigenerator**
Zlomek, Kadlecová, Fiala, *Brno University of Technology, Brno, Czech Republic*
- P09 Numerical Model And Analysis Of Pyramidal Hf Absorber**
Kadlecová, Zlomek, Steinbauer, Fiala, *Brno University of Technology, Brno, Czech Republic*
- P 10 INL and DNL Estimation of ADC Based on Noise**
Sajdl, Vrba, *Brno University of Technology, Brno, Czech Republic*
- P11 Channel estimation error in space-time block coded system**
Švirák, Šebesta, *Brno University of Technology, Brno, Czech Republic*
- P12 Analysis of acoustic signal incidental to ultrasonic cavitation**
Brabec, Morstein, Hefner, Havránek, *Brno University of Technology, Brno, Czech Republic*
- P13 Determination of Voltage/Current Wave Sensitivities on Multiconductor Transmission Lines**
Brančík, *Brno University of Technology, Brno, Czech Republic*
- P14 RTS noise in submicron MOSFETs**
Bláha, *Brno University of Technology, Brno, Czech Republic*
- P15 Measurement of Crosstalks Inside the Digital Integrated Circuit**
Novák, Foit, Janíček, *Czech Technical University in Prague, Czech Republic*
- P16 Micro-Raman analysis of bevelled Zn-delta doped GaAs layers**
Srňánek, Kinder, *Slovak University of Technology in Bratislava, Slovak Republic*
- P17 A Compact Model of the Nanoscale Double-Gate MOSFET**
Ficek, *Brno University of Technology, Brno, Czech Republic*
- P18 Characterization of tunnelling currents through thin oxides in MOS structures depending on gate electrode**
Valent, Racko, Breza, Pinteš, Harmatha, Donoval, *Slovak University of Technology in Bratislava, Slovak Republic*
- P19 Analysis and simulation selected properties of power transistor DMOS**
Hulényi, Netzel, *Slovak University of Technology in Bratislava, Slovak Republic*
- P20 Simulating base dopant outdiffusion in SiGe heterojunction bipolar transistor**
Kinder, Beňo, Hulényi, Gessner, Breza, Grmanová, *Slovak University of Technology in Bratislava, Slovak Republic*
- P21 SEM Observation of Multilayer Semiconductor Structures Using the YAG-BSE Detector**
Wandrol, Matějková, Autrata, *Institute of Scientific Instruments, Academy of Sciences of the Czech Republic*
- P22 Fem Model Of Calorimetric Sensor**
Drexler, Fiala, *Brno University of Technology, Brno, Czech Republic*
- P23 Smart Sensors on Internet: the IEEE 1451 Approach**
Švéda, *Brno University of Technology, Brno, Czech Republic*
- P24 Piezoceramic Sensor: Noise Spectral Density in view of Radius to Thickness Ratio**
Sedlák, Majzner, Šikula, *Brno University of Technology, Brno, Czech Republic*
- P25 Selfordered pore structure formatted from thin-film aluminum deposited on Si substrate**
Hrdý, Hubálek, *Brno University of Technology, Brno, Czech Republic*
- P26 Nickel and copper nanostructures prepared by electrodeposition**
Klosová, Hubálek, *Brno University of Technology, Brno, Czech Republic*
- P27 Properties of Screen Printing Contacts of Solar Cells**
Jakubka, Hejátková, Szendiuch, *Brno University of Technology, Brno, Czech Republic*
- P28 Life Time of Surface Mount Devices**
Novotný, Bulva, Szendiuch, *Brno University of Technology, Brno, Czech Republic*
- P29 Comparable study between bulk-driven and gate-driven MOST**

Khateb, Moualla, Musil , <i>Brno University of Technology, Brno, Czech Republic</i>
P30 Low-Voltage pt RTD bulk-driven CMOS Signal Conditioning Block Moualla, Khateb, Eldbib, Musil , <i>Brno University of Technology, Brno, Czech Republic</i>
P31 Towards The Differential Solutions Using CCII Eldbib , <i>Brno University of Technology, Brno, Czech Republic</i>
P32 Switched-Current Algorithmic Ad Converter With Rsd Algorithm Opletal , <i>Brno University of Technology, Brno, Czech Republic</i>
P33 Test-chip for non-linear capacitors characterization Sutorý, Kolka , <i>Brno University of Technology, Brno, Czech Republic</i>
P34 The Novel Integrated Microsensor Measurement System Fujcik, Prokop, Vrba, Háze , <i>Brno University of Technology, Brno, Czech Republic</i>
P35 Spartan-3 Development Board for Education Fujcik, Bohrn, Vrba , <i>Brno University of Technology, Brno, Czech Republic</i>
P36 A New Laboratory Workplace for Testing of ADCs Háze, Bajer, Vrba , <i>Brno University of Technology, Brno, Czech Republic</i>
P37 Tools for education of Signals and systems course Maršálek, Švirák, Kašparec , <i>Brno University of Technology, Brno, Czech Republic</i>
P38 DESSIS – HSPICE based model parameter extraction methodology Recman , <i>Brno University of Technology, Brno, Czech Republic</i>
P39 Internet in Sensor Technique Education Adámek, Prášek, Uhlár, Luňáček, Szendiuch , <i>Brno University of Technology, Brno, Czech Republic</i>
P40 ISE TCAD Simulator: From Structure to Compact Model Horák, Hejátková , <i>Brno University of Technology, Brno, Czech Republic</i>
P41 Current state of DVB-T experimental broadcasting in Brno Hála, Hertl, Řičný , <i>Brno University of Technology, Brno, Czech Republic</i>
P42 Determination of Availability of Optical Link Kvíčala , <i>Brno University of Technology, Brno, Czech Republic</i>
P43 Numerical Modeling the light systems by the R-FEM method and measuring Kadlecová, Fiala , <i>Brno University of Technology, Brno, Czech Republic</i>
P44 Properties of solar cells by low and very low illumination intensity Vaněk, Kubičková, Bařinka , <i>Brno University of Technology, Brno, Czech Republic</i>
P45 LBIC method with different wavelength of light source Vaněk, Kazelle, Bařinka, Ševčík , <i>Brno University of Technology, Brno, Czech Republic</i>
P46 Measurement of vircator ultra-short pulses power Steinbauer, Drexler, Fiala , <i>Brno University of Technology, Brno, Czech Republic</i>
P47 Vector Control Considering Non-Linearity of an Induction Motor Lettl, Ratz , <i>Czech Technical University in Prague, Czech Republic</i>
P48 Secondary Variable Voltage Regulation In Switched Power Supplies Pavlík , <i>Brno University of Technology, Brno, Czech Republic</i>
P49 M-N-K Hybrid Type Redundancy Applied On An Electrical Drive Korodi, Volosencu , <i>Politehnica University of Timisoara, Romania</i>
P50 Method of Testing Partial Discharge in Planar Transformer Mammadov , <i>Brno University of Technology, Brno, Czech Republic</i>
P51 Thermal Degradation of Schottky contacts on GaAs Macháč , <i>Institute of Chemical Technology, Prague, Czech Republic</i>
P52 CCTA – a new modern circuit block and its internal realization Prokop, Musil , <i>Brno University of Technology, Brno, Czech Republic</i>
P53 Precise evaluation system for monolithic tungsten wire manufacture Kadlec, Kolařík , <i>Brno University of Technology, Brno, Czech Republic</i>
P54 Low-Voltage pt RTD Bulk-Driven Signal Conditioning Block Moualla, Khateb, Eldbib, Musil , <i>Brno University of Technology, Brno, Czech Republic</i>
P55 Computer Networks with Smart Sensors: the IEEE 1451 Approach Švéda , <i>Brno University of Technology, Brno, Czech Republic</i>
P56 Digitally Controlled Audio Equalizer Brich , <i>Brno University of Technology, Brno, Czech Republic</i>
P57 Stepper motor control using speech recognition technologies Digaňa, Čuntala , <i>University of Zilina, Zilina, Slovakia</i>
P58 Zero-Centered Phase-Shifting Circuit Marián Štofka , <i>Slovak University of Technology, Bratislava, Slovakia</i>
P59 Analysis and Simulation of Selected Properties of Power MOSFET Hulényi, Netzel, Pawel, Racko, Kellö, Hertzner, Kinder, Kuruc , <i>FEI STU, Department of microelectronics, Bratislava, Slovakia</i>

- P60 Modelling and Simulation of Capacitance and Current Characteristics of MIS Structures with Thin Oxides**
Racko, Valent, Harmatha, Donoval, Ťapajna, Breza, FEI STU, Department of microelectronics, Bratislava, Slovakia
- P61 Quantum Devices Transport Simulation Using Transfer Matrix Method**
Třebický, Oves, Czech Technical University in Prague, Czech Republic
- P62 Metal Resistor Bolometer for X-ray Measurement**
Macháč, Ryc, Institute of Chemical Technology, Prague, Czech Republic
- P63 The Dependence of Output Current Response on Working Electrode Firing Temperature of Chemical Sensors**
Adámek, Prášek, Šulc, Brno University of Technology, Brno, Czech Republic
- P64 Gas detection in semiconductor sensors using fluctuation phenomena**
Hasse, Smulko, Spiralski, Gdansk University of Technology, Gdansk, Pomorskie, Poland
- P65 Impedance Spectrum Simulation of Piezoelectric Element**
Sedlák, Majzner, Šikula, Brno University of Technology, Brno, Czech Republic
- P66 Precision System for Measurement and Control Chemical Environment**
Šteffan, Vrba, Havlíček, Prokop, Brno University of Technology, Brno, Czech Republic
- P67 Design of macroporous silicon antireflection coatings on crystalline silicon**
Fonthal, Trifonov, Rodríguez, Marsal, Pallarès, Universitat Rovira i Virgili, Tarragona, Spain
- P68 Recent Advances in Nanotechnology**
Vladislav Musil, Brno University of Technology, Brno, Czech Republic
- P69 New trends in packaging**
Novotný, Szendiuch, Vaško, Brno University of Technology, Brno, Czech Republic
- P70 Quality Implementation in Microelectronics Technology Education**
Szendiuch, Brno University of Technology, Brno, Czech Republic
- P71 Solar Cell Dice Connecting**
Šandera, Brno University of Technology, Brno, Czech Republic
- P72 Eco-Design Management vs. Quality Management**
Szendiuch, Novotný, Vaško, Brno University of Technology, Brno, Czech Republic
- P73 Carbon Nanotubes Utilization in Electrochemical Sensors Area**
Prášek, Adámek, Sotter, Llobet, Bittencourt, Felten, Pireaux Brno University of Technology, Brno, Czech Republic