EDS IMAPS CS 2008 - Final Conference Schedule

WEDNESDAY 10th September 2008

8:00 - 12:30	REGISTRATION

9:00 - 10:30	**SYMPOSIUM OPENING** **Prof. Vladislav Musil, Prof. Josef Šikula**

	Invited papers

Evaluation of AlGaN/GaN and AlGaAs/GaAs Heterostructure Deep Levels by Low Measurements
Prof. Munecazu Tacano
Meisei University, Japan

Trends in Passive Components
Tomáš Zedníček
AVX Czech Republic

10:30 – 11:30	COFFE BREAK - POSTERS SESSION No. 1

11:30 - 12:50	**Invited papers**

Fabrication of (CdZn)Te Substrates by Chemical Polishing
Pavel Moravec, Pavel Höschl, Eduard Belas, Roman Fesh, Jan Franc, Pavel Hlídek
Charles University in Prague, Czech Republic

Scintillation Breakdowns in Chip Tantalum Capacitors
Alexander Teverovsky
PSGS/Goddard operations, NASA, USA

12:50 - 14:00	LUNCH

14:00 - 15:20	**Plenary session I. Semiconductors and Integrated circuits** **Chairman: Michael Brutscheck**

Investigation and Implementation of Test Vectors for Efficient IC Analysis
Michael Brutscheck, Marco Franke, Andreas Thomas Schwarzbacher, Steffen Becker
Dublin Institute of Technology, Ireland

Characterization of thin layers of CdTe by photoluminescence
Jan Franc, Nikolai Sochinskii, J Rodríguez-Fernández, M Abellan, Volodymyr Babentsov,
MFF UK, Czech Republic

SiC Schottky diodes with noble metals
Petr Macháč, Bohumil Barda
Institute of Chemical Technology, Czech Republic

Structure of Ti-based contacts on n-type 6H-SiC
Bohumil Barda, Petr Macháč, Stanislav Cichoň
Institute of Chemical Technology, Czech Republic

15:20 - 16:20	COFFE BREAK - POSTERS SESSION No.2

16:20 - 17:40	**Plenary session II. Passive components** **Chairman: Tomáš Zedníček**

Leakage Current Noise and Reliability of NbO and Ta Capacitors
Josef Šikula, V. Sedlakova, H. Navarova, J. Hlavka, M. Tacano, Z. Sita
Brno University of Technology, Czech Republic

Diagnostics of high-voltage varistor quality using resonant ultrasound spectros
Lech Hasse, Janusz Smulko
Gdansk University of Technology, Poland

Influence of structure of joint soldered with lead-free solders on its outer appe
Jiri Podzemsky, Jan Urbánek
Czech Technical University, Czech Republic

Field Crystallization in Tantalum Capacitors, DCL and Reliability
Tomáš Zedníček
AVX Czech Republic

17:45 - 18:30	IMAPS CZ&SK meeting

18:30	Departure to Social Evening by bus (vine cave Hustopeče)

THURSDAY 11th September 2008

9:30 - 10:50	COFFE and STUDENT POSTERS SESSION No.3

10:50 - 11:00	AWARDS for THE BEST STUDENT POSTERS

11:00 - 12:40	**Plenary session III.** **Chairman: Jiří Jakovenko**

Model of Matrix Converter-Fed Asynchronous Motor Drive Controlled by Takaha
Dragan Kuzmanovic, Jiří Lettl, Stanislav Flígl
Czech Technical University, Czech Republic

Optimal Modal Control of Dual-Mass Electromechanical Systems
Mikho Mikhov, Tsolo Georgiev
Technical University of Sofia, Bulgaria

Using AVISPA in the Education of Network Security
Pavel Ocenasek, Roman Trchalík
Brno University of Technology, Czech Republic

Suspended Island MEMS Structure for High Temperature Gas Sensors
Jiri Jakovenko, Miroslav Husak, Tibor Lalinsky, Milan Drzik
Czech Technical University, Czech Republic

12:40 - 12:50	CLOSING CEREMONY

13:00 - 14:00	LUNCH

14:00 - 17:00	Guided tour in Brno Center – for participants and accompanying persons

Note: Oral Presentation of every participant's should take 20 min

The poster hall will be opened for setting Posters session No.1 on Wednesday, 10 th September, 2008.
The posters should be available for visitors from 9:00 to 13:00.
Posters for The Posters session No.2 should be available for visitors from 14:00 to 17:40.
Posters for The Posters session No.3 should be hung on Wednesday from 17:40 for Thursday session.

Authors are expected to be next to her/his poster on
Wednesday, 10th September, 2008, from 10:30 to 11:30
Wednesday, 10th September, 2008, from 15:20 to 16:20
Thursday, 11th September, 2008, from 9:30 to 10:50

The poster board sizes are 90 x 135 cm (width x high)

POSTERS SESSION No.1

Floating GIC and its implementation,
Mahmoud Shaktour, Dalibor Biolek, *Brno University of Technology*

Grounded impedance current sensing
Jiří Vávra, Dalibor Biolek, *Brno University of Technology*

Interactive analysis of switched dc-dc converters in micro-cap
Viera Biolková, Dalibor Biolek, *Brno University of Technology*

Wireless Communication Platform IQRF – Case Study,
Radek Kuchta, Radimir Vrba, Vladimir Sulc, *Brno University of Technology*

Direct Accessing the Peripherals of Communication Devices Connected in Wireless Networks
Vladimir Sulc, *MICRORISC s.r.o.*

Demonstration of Two Embedded Wireless Applications Utilizing IEEE 802.15.4 Radio Chip
Ondřej Sajdl, Radimír Vrba, *Brno University of Technology*

Fabrication of Devices and Sensors based on Silicon-on-Insulator Technology,
Pavel Kulha, Miroslav Husak, Petr Mikulik, Milan Kucera, *Czech Technical University in Prague*

Analysis of Capacitive Coupling in CMOS Integrated Circuits,
Jan Novák, Julius Foit, Vladimir Janicek, *Brno University of Technology*

Thermodynamic Aspects of the Nanometre Scale Chip Design
Vladimír Áč, Miroslav Sumega, *Alexander Dubcek University of Trencin*

Digital Phase-Locked Loop For Data Clock Recovery System
Pavel Steffan, Dušan Zošiak, *Brno University of Technology*

The Lead Detection in Solders
Pavel Steffan, Ladislav Macháň, *Brno University of Technology*

Scaling of RTS noise in MOSFETs
Jan Pavelka, Josef Sikula, Munecazu Tacano, *Brno University of Technology*

Noise Spectroscopy of Traps In MOSFETS
Jan Pavelka, Josef Sikula, Munecazu Tacano, Masato Toita, *Brno University of Technology*

A New Model of Charge Transport in Very Thin Mis Structures by Indirect Tunnelling Via Insulator-To-Sen
Juraj Racko, P. Benko, D. Donoval, L. Harmatha, *Slovak University of Technology, Bratislava*

Using Spreading Resistance Profiling and Simulations for Monitoring of Phosphorus Contamination in Ion
Marián Kuruc, Ladislav Hulényi, Rudolf Kinder, *Slovak University of Technology, Bratislava*

The Influence of Technological Process on Properties of Thin Film Capacitors
Ivana Beshajová Pelikánová, *Czech Technical University in Prague*

Factors Influencing the Electrical Properties of Organic Thin Film Transistors
Rudolf Kinder, Jaroslav Kováč, Ján Jakabovič, Ladislav Harmatha, Ladislav Hulényi, *Slovak University of Technology, E*

Synthesis of Carbon Nanotubes on Natural Aluminosilicates
Magdaléna Kadlečíková, Juraj Breza, Katarína Pastorková, Karol Jesenák, Michal Kolmačka, Miroslav Michalka, *Slovak*

Autonomous Polymer Pressure Sensor
Vladimír Janíček, Miroslav Husak, *Czech Technical University in Prague*

Organic sensors for vapours detection
Jan Řeboun, Tomáš Blecha, Aleš Hamáček, *University of West Bohemia, Pilsen*

Optimizing Geometrics Proportions of Nanostructures by Genetics Algorithm,
Martin Magát, Radimír Vrba, Michal Pavlík, *Brno University of Technology*

Thick Film Sensor on Principle of Balanced Process Monitoring
Zdeněk Řezníček, Ivan Szendiuch, Michal Řezníček, *Brno University of Technology*

Some remarks to the Education in Microelectronics Technology
Ivan Szendiuch, *Brno University of Technology*

Electropolymerization on interdigital structures for vapours sensors
Tomáš Blecha, Aleš Hamáček, Jan Řeboun, *University of West Bohemia, Pilsen*

POSTERS SESSION No.2

Sintering low temperature co-fired ceramics
Petr Kosina, Edita Hejátková, Josef Šandera, *Brno University of Technology*

Methodology of the lead and lead free solders surface tension measurement
Karel Dušek, Jan Urbánek, *Czech Technical University in Prague*

The Novel Digital Design of a Cell for Cellular Neural Network
Daniela Ďuračková, Emil Raschman, *Slovak University of Technology, Bratislava*

Multiplying Digital-To-Analog Converter With 1,5 and 2,5 Bit Resolution – Case Study
Jiří Háze, Vilem Kledrowetz, *Brno University of Technology*

Analogue Automated Multi- Criterion Design in Comparison to Numerical Optimization Professional Tool
Jiří Maršík, Pravoslav Martinek, *ASICentrum, Prague*

Investigation of an Electrical Machine in Multidomain Environments
Marco Franke, V.Rusin, M. Brutscheck, R. Kasper, H. Mrech, U. Schmucker, *University of Applied Sciences, Merseburg,*

Theory for Prediction of Electrical Contact Resistance of ACAs Considering Electron Tunneling
Aleš Duraj, Pavel Mach, Karel Dušek, *Czech Technical University in Prague*

Third harmonic index as a diagnostic tool of high-voltage varistors
Lech Hasse, Janusz Smulko, Ludwik Spiralski, *Gdansk University of Technology*

Transient Phenomena on Multiconductor Transmission Lines Modeled by Lumped-Parameter Networks
Lubomír Brančík, *Brno University of Technology*

A Low Power Dissipation Technique for CCII
Fabian Khateb, Dalibor Biolek, Vladislav Musil, *Brno University of Technology*

Testability Enhancement of Multilevel Designs Guided by Testability Analysis Method
Josef Strnadel, *Brno University of Technology*

Numerical Modeling of a Tornado Electromagnetic Field
Pavel Fiala, Tomáš Jirků,Tomáš Kříž, *Brno University of Technology*

The Temperature Internal Measurement of Cu Bulk Resistivity
Karel Bartůšek, Tomáš Jirků,Pavel Fiala, *Brno University of Technology*

Analysis, Design and Optimization of Vibration Minigenerator
Pavel Fiala, Tomáš Jirků, *Brno University of Technology*

Numerical Modeling of Nontrivial Reflecting Parts Lights Systems
Pavel Fiala, Eva Kroutilova, Tomas Kriz, Radim Kadlec,*Brno University of Technology*

Analysis of Switched Circuits Using HSpice RF
Zdenek Kolka, Jan Kovář, *Brno University of Technology*

The power and noise characteristics of the radiation of the He-Ne laser with the transverse microwave dis
Turgunali Akhmadjanov,Misodik Mirinoyatov, Dildora Mirinoyatova, *National University of Uzbekistan, Tashkent*

Influence of Inhomogenities in Dielectric Sample at Microwave Signal
Dagmar Faktorová, *University of Žilina, Slovak Republic*

FDTD Analysis of a Linear Transmission Line with the Nonlinear Load
Jarmila Dědková, Miloslav Steinbauer, Radim Kadlec, *Brno University of Technology*

Segmentation of retinal layer structures on optical coherence tomography images,
Jan Mikulka, *Brno University of Technology*

Investigation of band gap of Dy doped GaN layers using the transmittance measurement
Václav Prajzler, Ivan Hüttel, Jarmila Špirková, Zdeněk Burian, Vítězslav Jeřábek, *Czech Technical University in Prague*

Design and Construction of a VHGT-Attached WDM -Type Triplex Transceiver Module Using Polymer PLC H
Vítězslav Jeřábek, Ivan Hüttel, Václav Prajzler, Karel Bušek, Petr Seliger, *Czech Technical University in Prague*

Inductance Powering for Electronic Systems
Adam Bouřa, Miroslav Husák, *Czech Technical University in Prague*

Internet Graphical Simulation Tool for Computer Analysis of Electrical Circuits
Jaroslav Kadlec, Lukáš Popelka, *Brno University of Technology*

Solder Joint Failure Identification
Josef Šandera, *Brno University of Technology*

Cracks in Soldered Joints Subjected To Mechanical Stress
Marek Tučan, Karel Dušek, Jan Urbánek, *Czech Technical University in Prague*

The Reliability of Solder Joint and Factors which Influence It
Olga Russkikh, Josef Šandera, Fabian Khateb, *Brno University of Technology*

STUDENT POSTERS SESSION No.3

PD measurements with microsensors
Tomáš Havlíček, Michal Pavlík, Jaroslav Boušek, *Brno University of Technology*

Onboard Computer for Status and Functional Parameters Evaluation of Internal-Combustion Engines
David Jaroš, Radek Kuchta, *Brno University of Technology*

Implementations of Artificial Neural Networks in Fpga Chips
Marek Bohrn, *Brno University of Technology*

Numerical Modeling of Lighting Systems
Radim Kadlec, Eva Kroutilová, Pavel Fiala, *Brno University of Technology*

Electric field measurement using MRI
Jan Mikulka, Pavel Fiala, Karel Bartušek, *Brno University of Technology*

Current Conveyor CCII For High-Accuracy Gm-Stage In Sensor Current Measurement System
Roman Prokop, Vladislav Musil, *Brno University of Technology*

Realization of the Private Branch Exchange Based on the Asterisk Project
Assaid Othman Sharoun, *Brno University of Technology*

Microconductometer system based on bipolar pulse method
Jiří Stehlík, Radek Kuchta, *Brno University of Technology*

Current Mode Operational Amplifier
Milan Valenta, Pravoslav Martinek, *Czech Technical University in Prague*

Microplasma noise sources and noise spectroscopy analyzing
Jan Dolenský, Jiri Vanek, Kristyna Jandova, Zdenek Chobola, *Brno University of Technology*

Dynamic Light Beam Induced Voltage testing method of solar cell
Jan Dolenský, Jiri Vanek, Kristyna Jandova, *Brno University of Technology*

Tutorial of the Design of the State Machine for Analogue Integrated Circuits
Miloslav Kubař, Jiří Jakovenko, *Czech Technical University in Prague*

Thermostated Chamber Conrolled by Peltier's Cooler for Electronics Testing
Jiří Sedláček, Radek Kuchta, Jaromír Hubálek, *Brno University of Technology*

Current-Triggered Bipolar ESD Power Clamp
Petr Běťák, *Brno University of Technology*

PWM Rectifier Realization
Jan Bauer, Jiri Lettl, *Czech Technical University in Prague*

Matching in Miller OTA: Case Study
Martin Laža, Marek Bohrn, *Brno University of Technology*

Model design of the switched current first generation memory cell
Michal Pavlík, Radimír Vrba, *Brno University of Technology*

Properties of Laser Machined and Metallized of Laser Drilled Via Interconnections in LTCC Substrates
Jan Vaněk, Ivan Szendiuch, *Brno University of Technology*

Interconnection in 3D structure
Petr Kosina, Edita Hejátková, Josef Šandera, *Brno University of Technology*

Impedance Spectroskopy of Electrochemical Microsensors
Václav Feber, Jaromír Hubálek, *Brno University of Technology*

Sensoric System for Automated Monitoring Environment During Plant Growing
Jaromír Žák, Jaromír Hubálek, *Brno University of Technology*

Study of solar cells I-V characteristics behavior in wide range of temperature
Robert Macku, Pavel Škarvada, Pavel Koktavý, *Brno University of Technology*

Experiments and numerical modeling of non-homogenous parts in materials
Jan Mikulka, Pavel Fiala, Eva Kroutilová, Miloslav Steinbauer, Přemysl Dohnal, Karel Bartušek, *Brno University of Tech*

Using MSC and SDL Languages for Description of Network Communication,
Roman Trchalík, Pavel Ocenasek, Miroslav Sveda, *Brno University of Technology*

OTA-based current differencing unit
Jiří Vávra, Dalibor Biolek, *Brno University of Technology*

Optimization of ladder filters with GmC simulation of floating inductors
Mahmoud Shaktour, Josef Bajer, Dalibor Biolek, *Brno University of Technology*

Improvement of Sensing Properties of the Thick-Film Sensor Using the Rotating Vessel Cell
Zdenek Pytlicek, Jan Prasek, Martin Adamek, *Brno University of Technology*

MEMS Sensor Based on Nanotechnology
Richard Ficek, Radimír Vrba, Ondřej Jašek, Marek Eliáš, Lenka Zajíčková, *Brno University of Technology*