



MOCAS

INTERNATIONAL CONFERENCE ON
MODERN CIRCUITS AND SYSTEMS TECHNOLOGIES

4th INTERNATIONAL CONFERENCE ON MODERN CIRCUITS AND SYSTEMS TECHNOLOGIES

May 14-15, 2015

Aristotle University Dissemination Center (KEΔEA)
Thessaloniki

PROGRAM

Organized by the FP7 Marie Curie IAPP Project FTK, the Greek National projects
NANOTRIM and NANOMOS and the Micro & Nano Scientific Society



Thursday, May 14

8:45 - 9:25	Registration
9:25 - 9:45	Welcome Speech from Organizers and University Authorities: Prof. S. Nikolaidis , – Department of Physics, AUTH, Greece Prof. Th. Laopoulos – Vice Rector, AUTH, Greece
9:45-10:45	Keynote Speech “Electrical Characterization of advanced CMOS devices” Prof. Gerard Ghibaudo – IMEP-LAHC, MINATEC-INPG, Grenoble, France <i>NANOMOS Project</i> Chair: Prof. Charalabos Dimitriadis
10:45-11:20	Coffee Break
Session 1: The NANOMOS Project Chair: Prof. Charalabos Dimitriadis	
11:20-11:40	“14nm Fully Depleted SOI: Technology, Devices and Scalability” F. Andrieu , S. Morvan, R. Berthelon, M. Cassé, O. Weber, E. Josse, M. Vinet, M. Haond <i>CEA-LETI, Minatec campus, 17 rue des Martyrs, 38054 Grenoble, France</i> <i>STMicroelectronics, 850 rue Monnet, F-38926 Crolles</i>
11:40-12:00	“High performance on-chip RF and mm-wave passive devices on a locally formed porous substrate on the Si wafer” Dr. Androula G. Nassiopoulou <i>NCSR Demokritos, Institute of Nanoscience and Nanotechnology (INN), Aghia Paraskevi, Athens, Greece</i>
12:00-12:20	“Ultra-Low Voltage and Ultra-Low Power Design Aspects of Analog and RF ICs in Advanced CMOS” Prof. Matthias Bucher <i>School of ECE, Technical University of Crete, Greece</i>
12:20-12:40	“Hot carrier degradation modeling of short-channel n-FinFETs suitable for circuit applications” I. Messaris , T.A. Karatsori, N. Fasarakis, S. Nikolaidis, G. Ghibaudo, C. A. Dimitriadis <i>Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece</i> <i>IMEP-LAHC, Minatec, Parvis Louis Néel, 38016 Grenoble Cedex 16, France</i>
12:40-13:00	“Development of Analytical Compact Drain Current Model For 28nm FDSOI MOSFETs” T.A. Karatsori , A. Tsormpatzoglou, C. G. Theodorou, E.G. Ioannidis, S. Haendler, N. Planes, G. Ghibaudo, C.A. Dimitriadis <i>Department of Physics, Aristotle University of Thessaloniki, Greece,</i> <i>IMEP-LAHC Lab. in Minatec, Parvis Louis Néel, 38016 Grenoble Cedex 16, France.</i>
13:00-14:20	Lunch Break and Poster presentation Session 2: The FTK project Chair: Dr. Calliope-Louisa Sotiropoulou
14:20-14:40	“FTK IAPP project: a new approach to real time image processing” Prof. Mauro Dell' Orso <i>Universita' di Pisa, Italy</i>
14:40-15:00	“An FPGA-based Test-Bench for the design verification of the FTK AMchip”

	Dr. Ali Mirzaei CNRS, Paris, France
15:00-15:20	"Highly Parallelized Pattern Matching Execution for Real Time Image Processing" Mr. Pierluigi Luciano Universita' Degli Studi Di Cassino e Del Lazio Meridionale and INFN Pisa, Italy
15:20-15:40	"The Fast Tracker Processing Unit future evolution" Mr. Christos Gentsos Aristotle University of Thessaloniki, Greece
15:40-16:00	"R & D in Electronics & Industrial Production: Prisma Electronics' contribution to FTK Project" Mr. Dimitris Dimas Prisma Electronics, Greece
16:00-16:30	Coffee Break and Poster presentation
Session 3: IEEE activities and Technology Trends Chair: Dr. Sotirios Goudos	
16:30-16:45	"Activities of the IEEE Greece CAS/SSC Joint Chapter" Prof. Alkis Hatzopoulos IEEE Greece CAS/SSC Joint Chapter Chair
16:45-17:00	"Presentation and activities of the IEEE A.U.Th. Student Branch" Mr Avraam Kyriakidis IEEE AUTH Student Branch Chair
17:00-17:20	"EXOMARS Mission: Developing a Vision System for Future Autonomous Space Exploration Robots" Prof. Dimitrios Soudris National Technical University of Athens (NTUA), School of Electrical & Computer Engineering, Greece
17:20-17:40	"FTK Input Mezzanine and Data Formatter for the Fast Tracker at ATLAS" T. Iizawa , A. Annovi, M. Berreta, R. Brown, M. Getta, S. Gaitatzis, N. Ilic, N. Kimura, K. Kordas, T. Mitani, Y. Okumura, C. Petridou, C.L. Sotiropoulou, L. Tompkins, K. Yorita Waseda University, INFN Sezione di PISA, INFN Laboratori Nazionali di Frascati, Stanford University, Arithotle University of Thessaloniki, Chicago University
17:40-18:00	"Spectrum Allocation using Evolutionary Algorithms" Thomas I. Tegou and Sotirios K. Goudos Department of Physics, Aristotle University of Thessaloniki, Greece
21:00	Conference Dinner (by invitation only)

Friday, May 15

9:45 - 10:00	Registration
10:00-11:00	Keynote Speech
	<p><i>"Efficient prototyping and manufacturing of medical instrumentation through customizable electronic components"</i> Dr. Athanasios Demiris, micro2gen, Athens, Greece Chair: Ms Christina Galani</p>
11:00-11:30	Coffee Break
	Session 4: Technology Trends Chair: Assist. prof. Dimitrios Tassis
11:30-11:50	<p><i>"Is it time for EDA to level up to the cloud?"</i> Dr. Minas Dasygenis, Lecturer <i>Department of Information in Engineering & Telecommunications, University of Western Macedonia, Greece</i></p>
11:50-12:10	<p><i>"Efficiency of Cryptography for Multi-Algorithm Computation on Dedicated Structures"</i> Nicolaos Sklavos, João Carlos Resende, Ricardo Chaves, Francesco Regazzoni, Osnat Keren <i>KNOSSOSnet Research Group, Computer Informatics & Engineering Department, Technological Educational Institute of Western Greece, Greece</i> <i>INESC-ID, IST, University of Lisbon, Portugal</i> <i>Bar Ilan University, Israel</i> <i>ALaRI Institute, University of Lugano, Switzerland</i></p>
12:10-12:30	<p><i>"Mixed Signal SoC substrate coupling"</i> Dr. Thomas Noulis, Lecturer <i>Department of Physics, Aristotle University of Thessaloniki, Greece</i></p>
12:30-12:50	<p><i>"Displays technology : current and future prospective and challenges"</i> Dr. Ilias Pappas <i>Department of Physics, Aristotle University of Thessaloniki, Greece</i></p>
12:50-13:10	<p><i>"A compact Delay Model for OTFT Switches"</i> Carol de Benito, Rodrigo Picos, Spyridon Nikolaidis, Magali Estrada <i>Physics Dept, Universitat de les Illes Balears, Spain</i> <i>Department of Physics, Aristotle University of Thessaloniki, Greece</i> <i>SEES, CINVESTAV-IPN, Mexico</i></p>
13:10-14:00	Light Lunch and Coffee Break
	Session 5: The NANOTRIM project Chair: Mr Ioannis Messaris
14:00-14:20	<p><i>"NanoTrim A Tool To Reduce Design Cycle Time"</i> Mr. Michalis Tsiambas <i>HELIC S.A., Athens, Greece</i></p>
14:20-14:40	<p><i>"Formal Verification Flow for Low Power Library Development"</i> Prof. John Moondanos, <i>Department of Electrical & Computer Engineering,</i> <i>University of Thessaly, Greece</i></p>
14:40-15:00	<p><i>"CCSOpt: A continuous Gate-Level Resizing Tool"</i> D. Ntioudis, Ch. Kalonakis, P. Giannakou, Ch. Antoniadis, G. Stamoulis <i>IRETETH/CERTH, Volos, Greece</i></p>

	<i>Department of Electrical and Computer Engineering , University of Thessaly, Greece</i>
15:00-15:20	"GDS2trim: Physical Layout Manipulation Utility for continuous transistor sizing" P. Giannakou , Ch. Antoniadis, Ch. Kalonakis, D. Dioudis, G. Stamoulis, <i>IRETETH/CERTH, Volos, Greece</i> <i>Department of Electrical and Computer Engineering , University of Thessaly, Greece</i>
15:20-15:40	"CMOS Digital Gate Pre-Characterization Using Equivalent Inverters" Ch. Galani , A. Tsormpatzoglou, I. Messaris, M. Ntogramatzi, N. Karagiorgos, S. Goudos, S. Nikolaidis <i>Department of Physics, Aristotle University of Thessaloniki, Greece</i>
15:40-16:00	Coffee Break
Session 6: Technology Trends Chair: Ms Maria Ntogramatzi, Ms Theano Karatsori	
16:00-16:20	"High-Energy Micro-grain Silicon Anodes for Lithium-Ion Technology" F. Farmakis , P. Selinis, C. Elmasides, N. Georgoulas, M. Hagen, P. Fanz, A. Kovacs, S. Schiestel <i>NANOMOS Project</i> <i>Democritus University of Thrace, Xanthi, Greece</i> Fraunhofer ICT, Karlsruhe, Germany Limedion GmbH, Mannheim, Germany
16:20-16:40	"Surface-mount device prototyping in education: A feasible alternative to conventional through-hole practice" Dr. Vassilis K. Papanikolaou <i>Civil Engineering Department, Aristotle University of Thessaloniki, Greece</i>
16:40-17:00	"ICT-enhanced teaching of electrical circuits" Dr. Stavros Stavrinos <i>University of Thessaly, Greece</i>
17:00-17:15	"Electronics Design and Layout Complexity of the ATLAS New Small Wheels" Dr. George Iakovidis <i>Brookhaven, National Laboratory, NY, USA</i>
17:15-17:30	"Level-1 Data Driver Card of the ATLAS New Small Wheel Upgrade" Th. Alexopoulos, P. Gountoumis , A. Koulouris, G. Iakovidis, <i>Department of Physics</i> <i>National Technical University of Athens, Greece,</i> Brookhaven National Laboratory, NY, USA
17:30- 17:40	Student poster Prize delivery Chair: Dr. Calliope-Louisa Sotiropoulou
End of Workshop	