

ICSES'04

INTERNATIONAL CONFERENCE ON
SIGNALS AND ELECTRONIC SYSTEMS

and

IWSSIP'04

11th INTERNATIONAL WORKSHOP on
SYSTEMS, SIGNALS and IMAGE
PROCESSING
ambient multimedia

13-15 September 2004
Poznań, Poland

Programme

ICSES'04 organizers

Poznań University of Technology,
Institute of Electronics and
Telecommunications

PTETiS
Polish Society for Theoretical
and Applied Electrical Engineering
Poznań Section

in co-operation with

IEEE
The Institute of Electrical and Electronics
Engineers
Circuits and Systems Society
(Technical Co-sponsorship)

Signals, Network and Electronic Systems
Section
of Electronics and Telecommunications
Committee
of Polish Academy of Sciences

IWSSIP'04 organizers

Poznań University of Technology,
Institute of Electronics and
Telecommunications

PTETiS
Polish Society for Theoretical
and Applied Electrical Engineering
Poznań Section

in co-operation with

EURASIP
The European Association for Signal,
Speech and Image Processing

IEEE
The Institute of Electrical and Electronics
Engineers
Signal Processing Society
(Technical Co-sponsorship)

Signals, Network and Electronic Systems
Section
of Electronics and Telecommunications
Committee
of Polish Academy of Sciences

IWSSIP'04 Sponsors



Advanced Digital Broadcast

Interactive Solutions for Digital TV



Ministry of Scientific Research
and Information Technology

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B. Sałata (registration)
P. Szulakiewicz
R. Świerczyński,
R. Wahlich
T. Żernicki (databases, web)

Venue

ICSES'04 and IWSSIP'04 will be held in Poznań in the Conference Center, pavilion 14B, at the Poznań International Fair. You will find a map of the city centre reproduced on the back cover of this booklet. The pavilion 14B is located in the middle of the fair area, as shown on another map printed on the last page. The pavilion offers several lecture halls and rooms equipped with microphones (except Room 204), video and overhead projectors.

The entrance to the building is located at the south part with the registration desk at the same floor, next to the cloakroom. Coffee breaks will be served at the ground floor and the 2nd floor. Lunch will also be served in the same building.

Entrance level (PRZYZIEMIE)	- registration desk, - cloakroom
Ground floor (PARTER)	- lunch hall, - coffee breaks
1 st floor (PIĘTRO 1)	- PLENARY lecture hall, - POSTER hall (in the foyer)
2 nd floor (PIĘTRO 2)	- rooms A, B, C, D, 204, - quiet work room 205, - coffee breaks

Registration Desk	Monday	8:00 – 18:30
	Tuesday	8:30 – 15:30
	Wednesday	8:30 – 17:30

How to get there

From the Railway Station to the Conference Center:

Please leave the station through the west entrance (Dworzec Zachodni) at the end of the underground passage, behind platform 6. The entrance to the Poznań International Fair is right across the Głogowska street with traffic lights. Behind the entrance, go a street left, then slightly right. The distance from the Railway Station (west entrance) to pavilion 14B is about 200m (see the map printed on the last page).

From the Airport to the Conference Center:

Although it is possible to take a bus (buses 78 and 59 go to the stop "Bałtyk" that is very close to the Fair area, bus 78 goes to the stop "Wielkopolska" 400 m apart from IKAR hotel), you need a 30-minute ticket for 2.40 złoty), we recommend to take a taxi. Only the company "919" is allowed to wait for passengers in front the airport (the taxi should have a 919 number displayed clearly on the roof and on side doors). A trip (about 6 km) to the Fair entrance should cost about 25 złoty (€5.60) during the weekdays, or about 30-35 złoty (€6.70-7.90) in the night and on Sunday. Show the driver your destination (pavilion 14B through car entrance to Poznań International Fair from Śniadeckich street):

MTP – pawilon 14B – wjazd od ul. Śniadeckich

By car to the Conference Center:

You need to get to the Śniadeckich street which is at the west side of the Fair area and pass through the car entrance to Poznań International Fair. The guard should pass you in if you tell him that you attend ICSES or IWSSIP. You may leave your car on the free parking area next to the pavilion 15.

From the hotels to the Conference Center:

IKAR: 2.3 km. By tram: Go 400m west along the streets Solna and Nowowiejskiego to the tram stop **Wielkopolska**. Direct connection with tram #11. Leave the tram at the stop **Dworzec Zachodni** (west entrance to the main railway station), just by the entrance to the fair grounds. You may take also #9 and #10, and change to #8 or #14 at **Kaponiera**.

MERCURE: 900m along Roosevelta street southbound. Trams #8, #11 and #14 direction GÓRCZYN or ZAWADY from the stop in front of the hotel. Validate 10-minutes' ticket. Leave the tram at the 2nd stop **Dworzec Zachodni** (west entrance to the main railway station), just by the entrance to the fair grounds.

LECH: 1.4 km. Tram #5 direction GÓRCZYN to the 3rd stop **Dworzec Zachodni** (west entrance to the main railway station), just by the entrance to the fair grounds. You may take also #2 (direction OGRODY), and change to #8, #11 or #14 (direction GÓRCZYN or ZAWADY) at **Kaponiera** (use subway to change the tram platforms).

DS-1: 3.6 km. Take tram #6, direction BUDZISZYŃSKA, to the stop **Most Dworcowy** (just after the viaduct over the main railway station). Walk 200m southbound to the entrance to the fair grounds (just in front of the west entrance to the main railway station).

From the airport to the hotels:

The taxi fares (919 company) to the hotels IKAR, LECH and MERCURE should be of order of 20-30 zł in daytime Mo.-Sat. and 30-40 zł on Sunday and after 10PM.

From the main railway station to the hotels:

IKAR: 2.2 km. By city bus: Take #51 or #68 from the central entrance (rail track level). Step out at 4th stop.

LECH: 1.3 km. By tram #5 from the west entrance (Dworzec Zachodni) behind the platform 6. Leave the tram at 3rd stop.

DS1: 3.6 km. Take tram #6 (direction: MIŁOSTOWO) or tram #5 (direction STOMIL) from another platform - both from the stop by the viaduct over the station to the stop **Kórnicka**.

Social events

Conference and Workshop dinner

is scheduled on Monday, 13, at 21:00 (9PM) in the hotel POLONEZ, street address: aleja Niepodległości 36. 300 m apart from Solna street northbound.

From Hotel IKAR: Hotel POLONEZ is located 200m apart from the hotel IKAR.

From Hotel LECH: 15min walking distance (1.1 km). You may take buses #68 or #71 from aleja Niepodległości just by corner to Św. Marcin (by plac Mickiewicza and Zamek). Scheduled departs are 20:33, 20:53, 21:13. Validate 10-minutes' ticket. You leave the bus at 2nd stop just in front of hotel POLONEZ. Taxi fare about 4.50 – 6.00 zł (PLN), return 5.00 – 7.00 zł (PLN) after 10PM.

From Hotel MERCURE: 20min walking distance (1.6 km). From hotel Mercure you may take trams #10 or #11 to **Wielkopolska** stop (3rd stop) and then walk 800 m. Validate 10-minutes' ticket. Taxi fare would be about 5.00 – 7.00 zł (PLN), return 6.00 – 8.00 zł (PLN) after 10PM.

From DS-1: You are recommended to take a tram #1 direction OGRODY, #4 direction POŁABSKA, or #16 direction OS. JANA III SOBIESKIEGO (these three lines share the same segment of their routes). Validate 30-minutes' ticket. Please leave the tram at the stop **Fredry** (it should be 8th stop if you start at the crossing of Jana Pawła II and Kórnicka, heading north). From Fredry street please go down along aleja Niepodległości. Hotel POLONEZ is about 800m from Fredry street. Taxi fare about 7.00 – 12.00 zł (PLN), return fare somewhat is higher after 10PM.

Sightseeing tour

is planned on Tuesday, 14, beginning at 15:30 (3.30PM). Special buses with an English-speaking guide will take us from the conference center to *Ostrów Tumski* (Cathedral Island) going through the centre of the city. On the island, we are going to walk 200m to the Cathedral with 1000-year history. After visiting the Cathedral the buses will take us to the baroque *Fara* (Parish Church). You may enjoy a 15-minutes organ concert with an English introduction. You will visit *Stary Rynek* (Old Market) with the beautiful renaissance *Stary Ratusz* (Old Town Hall). After the tour you will have the opportunity to enjoy the evening in *Stare Miasto* (Old City). The final point of the tour (*Stary Rynek* = Old Market) is about 900m apart from both IKAR and LECH hotels.

During the tour, we will visit two churches where people come to pray all the day. Please observe dignity of these places (silence is requested, men are expected to take hats off).

The schedule of the trip may be subject of modifications due conditions independent from us.

Transportation in Poznań

City trams and buses:

Trams operate from very early morning till about 10:30 or 11:00 PM. From Monday to Friday, between 5:30 AM and 6:00 PM, they operate mostly in 10-minutes intervals. After 6PM 20-minutes' intervals apply. Trams as well as standard city buses are served by the main operator MPK and signed by its logo MPK. In principle, you find timetables at each tram and bus stop. There is a map in each vehicle. Day's timetable is valid till 11PM in Poznań public transport. From that moment until the morning only night buses run throughout the city, and all of them cross the Kaponiera Circus (close to the Mercure hotel), so that you can change without problems. The night buses depart from Kaponiera in the intervals mostly of half an hour.

We have a time ticket system in Poznań, which means that you buy tickets for the defined time of journey, and not for a particular distance. This allows you to change with the same tickets, and without using another ticket for the next bus or tram, unless you are beyond the time limit of the ticket. The starting time of the journey is printed on the ticket by the ticket-puncher. There are tickets available for 10, 30, 60 and 90 minutes. The 10-minutes' ticket costs 1.20 złoty (PLN), 30-minutes' ticket costs 2.40 PLN. If you plan a long journey throughout the city, and you do not wish to waste your time thinking about the tickets all over again, you are recommended to buy a 24-hours' ticket for 10,20 PLN (valid for 24 hours) or a weekly ticket for 24 PLN.

There are no special night tickets in Poznań, the fares are the same for the whole 24 hours. Express buses (lines B and P) have special fares however, equal to double normal fares.

You have to purchase your ticket BEFORE you enter the vehicle. You can buy tickets in many kiosks (most newspaper and tobacco sellers as well as some shops). If you plan to use tram or bus in late evening or weekend, please buy your ticket in advance. You have to validate your ticket in a validate printing machine (a plastic red or yellow box) IMMEDIATELY after entering the vehicle.

One more advice about the time tickets: if you validate e.g. two 10-minutes' tickets simultaneously, it is equivalent to validate one half-hour ticket. But as you validate one 10-minutes' ticket, and after those 10 minutes - another 10-minutes' ticket, the other one will be valid for the next 10 minutes' only. Therefore it is recommended to check out time schedules at tram- and bus-stops.

Taxi:

Taxis are easy to get and not expensive. Several taxi companies are operating in the city. They are identified by the phone numbers you use to call them. These numbers are also displayed on the roof of each car, just next to the word TAXI. Good examples are: 9622, 919, 9625.

Please note that different taxi companies have different fares in Poznań. The prices are displayed on the window of the rear right door. The first number means the price for the first kilometre (usually 3.50 złoty (by 9622 company) up to 5 złoty (by 919 company)). The second number is the price of the each consecutive kilometre (usually 1.30 (9622) to 2.00 złoty (919)). This price is valid on Monday to Saturday between 6:00 AM and 10:00 PM (fare type 1). Otherwise the price is higher by 50% (fare type 2). The fare type is displayed on the taxi-meter together with the amount to be paid.

To be sure, your hotel reception will help you to call a taxi. The official maximum fares are substantially higher as compared to those offered by big companies. Please avoid independent taxi drivers (no company phone number or some long 7- or 9-digit numbers only) who charge you mostly the maximum price.

In front of the railway station, mostly expensive independent taxis wait. For cheaper taxi you have to call. Inside of railway station, there are points at kiosks which display the sign: "Tu możesz zamówić radio taxi" meaning "Here you can order a radio taxi". All taxis, by law must have a tariff card on the window you can check the rates he is applying. You do NOT have to enter the first cab in the rank.

The taxi driver has to print a bill. Tipping is not common.

Practical information

Currency

The currency in Poland is złoty (zł, PLN). Although some places accept Euro, in general it is not possible to pay in euros in shops or restaurants. It is quite easy and safe to exchange your currency in many exchange offices located in major streets. The current exchange rate at the time of printing this booklet is 1 euro = 4.42 złoty (zł, PLN).

Electricity

The electricity standard in Poland is 230 Volts AC, 50Hz. Standard European appliances do not need any adaptors.

Telephony

The international access code to Poland is +48, and the prefix number for Poznań is 61. To dial an international number from Poland you need to precede your country number with 00 (double zero).

Cellular telephony in Poland is generally divided between three operators: Era GSM, Plus GSM and Idea. All three operators use dualband system: GSM 900/DCS 1800. DCS 1900 is not available.

Time

The time in Poland is the same as in the whole central and west Europe, i.e. GMT +1. In September, summer daylight saving time adds 1 more hour.

Shopping

The hours of opening depend on the owner of the shop. Most of the shops are open Monday through Friday from 10AM to 6PM, Saturday from 9AM to 1PM. Groceries are open Monday through Friday from 6AM to 8PM, Saturday from 9AM am to 2PM. Some groceries are open also on Sunday. Supermarkets are usually open from 8AM to 10PM, all the week.

Dinning out

Polish food tends to be heavy, with emphasis on thick soups, potatoes, breads and meat. You will find many restaurants in the city centre, especially in the Old Market and the surrounding area. Unfortunately, most of them offer rather foreign food (with best examples of Azalia, Św. Marcin street which serves Chinese meals, Italian Estella, Garbary street and Mexican Grill, Gwarna street). For traditional Polish cuisine we recommend Pierogarnia and Adria (both located on the Głogowska street, next to the Fair grounds), Al Fredro (Fredry street), Kresowa, Ratuszowa, Pod Koziółkami (all located in the Old Market). The food is generally inexpensive compared to other European countries. There are no hard and fast rules about tipping, although it's increasingly common to leave an additional ten to fifteen percent, or round the bill up to the nearest convenient figure.

Weather

Autumn in Poland is cloudy with average daily temperature about 18° and possible showers. Expect daily temperature to change between 10° to 25° on a sunny day. Some lighter and some warmer wardrobe parts are recommended as well as a raincoat or an umbrella. The weather may change quite rapidly.

PLENARY LECTURES

Location: *PLENARY*

MONDAY WAVELET VIDEO CODING
10:20 Prof. Jeans-Rainer Ohm, *Lehrstuhl für Nachrichtentechnik und Institut für Elektrische Nachrichtentechnik, Rheinisch-Westfälische Technische Hochschule, Aachen, GERMANY*

MONDAY THE TROUBLE WITH INTERCONNECTS –
11:45 A BOTTLENECK FOR HIGH-SPEED ELECTRONICS
Prof. Hartmut Grabinski, *Laboratorium für Informationstechnologie, Universität Hannover, Hannover, GERMANY*

TUESDAY MPEG-21 STANDARD: TOWARDS THE
9:00 INTEGRATION OF MULTIMEDIA TECHNOLOGIES
Prof. Fernando Pereira, *Instituto Superior Técnico – Instituto de Telecomunicações, Lisboa, PORTUGAL*

WEDNESDAY TALKING FACES – TECHNOLOGIES AND
9:00 APPLICATIONS
Prof. Jörn Ostermann, *Institut für Theoretische Nachrichtentechnik und Informationsverarbeitung, Universität Hannover, Hannover, GERMANY*

SOCIAL EVENTS:

CONFERENCE DINNER: MONDAY, SEPTEMBER 13, 21:00
Site: Hotel POLONEZ, al. Niepodległości 36

SIGHTSEEING: TUESDAY, SEPTEMBER 14, 15:30
Buses leave from the Conference Center 14B

MONDAY SEPTEMBER 13, 2004

OPENING SESSION:

10:00 Chair: M. Domański

Location: *PLENARY*

Opening of ICSES'04 and IWSSIP'04

MONDAY PLENARY LECTURES

10:20 Chair: M. Domański

Location: *PLENARY*

WAVELET VIDEO CODING

Jeans-Rainer Ohm, Lehrstuhl für Nachrichtentechnik und Institut für Elektrische Nachrichtentechnik Rheinisch-Westfälische Technische Hochschule, Aachen, GERMANY

11:20 – 11:45 *Coffee Break*

11:45 Chair: M. Piekarski

Location: *PLENARY*

**THE TROUBLE WITH INTERCONNECTS –
A BOTTLENECK FOR HIGH-SPEED ELECTRONICS**

Hartmut Grabinski, Laboratorium für Informationstechnologie, Universität Hannover, Hannover, GERMANY

MONDAY SEPTEMBER 13, 2004

ICSES ORAL SESSION: CMOS CIRCUIT DESIGN

Chair: T. Shima

Location: Room A

- 14:00 METHODS FOR SI TECHNIQUE DESIGN
AUTOMATION
R. Rudnicki, A. Handkiewicz, *Poznań University of Technology, POLAND*
- 14:20 ACCURATE POWER ESTIMATION MODEL FOR
CMOS ADDERS OPTIMIZATION
S. Perri, *University of Calabria, ITALY*
F. Frustaci, P. Corsonello, *University of Reggio Calabria, ITALY*
- 14:40 TRADING SPEED AND POWER FOR REDUCED
SUBSTRATE NOISE FROM DIGITAL CMOS
CIRCUITS
J. Alfredsson, B. Oelmann, *Mid Sweden University, SWEDEN*
- 15:00 INPUT VOLTAGE IMPACT ON QUASI-SHORT
POWER DISSIPATION OF CMOS GATES
I. Brzozowski, A. Kos, *AGH University of Science and
Technology, POLAND*
- 15:20 IMPROVED POWER-SAVING SYNAPSE FOR
ADAPTIVE NEUROPROCESSING ON SILICON
R. Wojtyna, T. Talaška, *University of Technology and
Agriculture, Bydgoszcz, POLAND*

MONDAY SEPTEMBER 13, 2004

ICESES ORAL SESSION: DIGITAL FILTER DESIGN

Chair: K. Fazekas

Location: Room B

- 14:00 ANALYTICAL DESIGN OF MAXIMALLY FLAT
NOTCH FIR FILTERS
P. Zahradnik, M. Vlček, *Czech Technical University in Prague,
CZECH REPUBLIC*
- 14:20 DESIGN OF FIR FILTERS WITH COMPLEX
COEFFICIENTS
F. Wysocka-Schillak, *University of Technology and Agriculture
Bydgoszcz, POLAND*
- 14:40 GENERALIZED LINEAR-PHASE FIR FILTERS BASED
ON SWITCHING AND RESETTING OF IIR FILTERS
P. Arian, T. Saramäki, *Tampere University of Technology,
FINLAND*
A.T. Fam, *University at Buffalo, USA*
- 15:00 THE DIGITAL FREQUENCY TRANSFORMATION
BY MATRIX OPERATION AND ITS APPLICATION IN
IIR FILTERS DESIGN
J. Konopacki, *Silesian University of Technology, POLAND*
- 15:20 IIR POWER SYMMETRIC FILTER DESIGN
BASED ON MARTINEZ/PARKS ALGORITHM
E.T. Akman, *University of Istanbul, TURKEY*

MONDAY SEPTEMBER 13, 2004

ICESES ORAL SESSION: NONLINEAR SYSTEMS

Chair: M. Tadeusiewicz

Location: Room C

- 14:00 FINDING ALL THE DC SOLUTIONS OF CIRCUITS CONTAINING IDEALIZED DIODES AND TRANSISTORS
M. Tadeusiewicz, S. Hałgas, *Technical University of Łódź, POLAND*
- 14:20 CALCULATION AND REDUCTION OF LOW FREQUENCY NOISE UPCONVERSION IN LC OSCILLATORS
M. Stadler, *Electromagnetic Fields and Microwave Electronics Laboratory (IFH), SWITZERLAND*
- 14:40 OPTIMAL JITTER TRANSFER CHARACTERISTICS IN THIRD-ORDER PLLs
M. Balucani, C. Massari, *University of Rome "La Sapienza", ITALY*
F. Neri, *Philips Semiconductors, SWITZERLAND*
- 15:00 EFFICIENT TRAINING OF COMPLEX ARCHITECTURES OF CONTEXT-DEPENDENT NEURAL NETS
P. Ciskowski, *Wroclaw University of Technology, POLAND*
- 15:20 ROBUST ADAPTIVE CONTROL: IMPROVED E-MODIFICATION USING A NON-QUADRATIC LYAPUNOV FUNCTION
M.P.R.V. Rao, H.A. Hassan, *University of Ulster, NORTHERN IRELAND*
D.N. Donnelly, *R & D Division Schrader Electronics, NORTHERN IRELAND*

MONDAY SEPTEMBER 13, 2004

IWSSIP ORAL SESSION: VIDEO CODING

Chair: J.-R. Ohm

Location: PLENARY

- 14:00 SNR-SCALABLE VIDEO CODING BASED ON H.264/AVC
H. Schwarz, D. Marpe, T. Wiegand, *Fraunhofer Institute for Telecommunications – Heinrich Hertz Institute, GERMANY*
- 14:20 MODIFIED AVC CODEC WITH SNR SCALABILITY BASED ON MACROBLOCK HIERARCHY
Ł. Błaszak, M. Domański, R. Lange, *Poznań University of Technology, POLAND*
- 14:40 ENHANCED INTER-LAYER PREDICTION OF MOTION VECTORS IN AVC-BASED SCALABLE VIDEO CODER
R. Lange, M. Domański, *Poznań University of Technology, POLAND*
- 15:00 STUDY OF LAYERED AND 3D WAVELET SPATIAL SCALABLE COMPRESSION METHODS
I. O. Kirenko, R. J. van der Vleuten, *Philips Research Laboratories, THE NETHERLANDS*
- 15:20 COMPARISON OF NOISE REDUCTION AND MPEG-2 COMPRESSION EFFICIENCY FOR PRE-PROCESSING VIDEO FILTERS
A. Ericsson, H. Norell, M. O’Nils, *Mid-Sweden University, SWEDEN*

MONDAY SEPTEMBER 13, 2004

IWSSIP ORAL SESSION:

BIOMEDICAL SIGNAL PROCESSING

Chair: T. Zielinski

Location: Room 204

- 14:00 PET IMAGE RECONSTRUCTION USING A
MODIFIED ORDERED SUBSETS AND SAGE
ALGORITHM
H. Zhu, H. Shu, L. Luo, J. Zhou, *Southeast University, CHINA*
- 14:20 USE OF WAVELET PACKETS TO COMPARE
ELECTROENCEPHALOGRAM SIGNALS (EEG) IN
PATIENTS WITH ALZHEIMER'S DISEASE AND
CONTROL SUBJECTS
R. Hornero, D. E. Abásolo, J. Poza, C. I. Sánchez, R. Rosa,
Universidad de Valladolid, SPAIN
P. Espino, *Hospital Universitario de Valladolid, SPAIN*
- 14:40 PARTICLE ANALYZER: AN HYBRID APPROACH
FOR MICROSCOPIC GRANULOMETRY
A. Conci, I. N. Ferraz, A. C. B. Garcia, R. H. C. De Melo, *UFF -
Universidade Federal Fluminense, BRAZIL*
P.Y. Bürkle, *ADDLabs, BRAZIL*
- 15:00 SHARP: A SMART HIERARCHICAL ALGORITHM TO
REGISTER PSORIASIS
D. Delgado, B. Ersbøll, J. M. Carstensen, *Technical University
of Denmark, DENMARK*
- 15:20 A NEW HYBRID APPROACH FOR PARAMETER
ESTIMATION OF SIGNALS NMR
M. Stepan, *Brno University of Technology, CZECH REPUBLIC*
M. Mares, *Academy of Sciences of the Czech Republic, CZECH
REPUBLIC*

MONDAY SEPTEMBER 13, 2004

ICESES POSTER SESSION: SIGMA-DELTA MODULATORS

Chair: J. Holub

Location: Poster Hall

- 14:00 COMPACT FULLY DIFFERENTIAL FOLDED
-16:10 CASCODE OPERATIONAL AMPLIFIER
Stand 1 FOR HIGH-RESOLUTION SIGMA-DELTA
MODULATORS
S. Kim, E.W. Greeneich, *Arizona State University, USA*
- 14:00 DESIGN OF THE THIRD ORDER CASCADE
-16:10 SIGMA-DELTA MODULATOR FOR
Stand 3 SWITCHED-CAPACITOR APPLICATIONS
S. Kim, E.W. Greeneich, *Arizona State University, USA*
- 14:00 ON THE IMPLICIT ANTI-ALIASING FILTER IN
-16:10 CONTINUOUS TIME SIGMA DELTA MODULATORS
Stand 5 M. Keller, Y. Manoli, *Albert-Ludwigs-University, GERMANY*
M. Ortmanns, *sci-worx GmbH, GERMANY*
- 14:00 IMPLEMENTATION OF A POWER OPTIMIZED
-16:10 DECIMATOR FOR CASCADED $\Sigma\Delta$ A/D
Stand 7 CONVERTERS
M. Becke, N. Lotze, J. Becker, Y. Manoli, *Albert-Ludwigs University, GERMANY*
M. Ortmanns, *sci-worx GmbH, GERMANY*
- 14:00 THE INFLUENCE OF THE CIRCUIT DESIGN
-16:10 PARAMETERS AND THE CLOCK JITTER ON
Stand 9 CONTINUOUS-TIME $\Sigma\Delta$ MODULATORS
L. Samid, Y. Manoli, *University of Freiburg, GERMANY*

Program of this session continues at the next page

14:00 ANALYSIS AND DESIGN OF SIGMA-DELTA
-16:10 MODULATORS USING THE THEORY OF SLIDING
Stand MODES
11 S-H. Yu, *National Sun Yat-Sen University, TAIWAN*

14:00 AN APPROACH FOR RESOLUTION PREDICTION OF
-16:10 LOWPASS $\Sigma\Delta$ MODULATORS USING SIMULINK
Stand BEHAVIOR SIMULATION
15 G. Lei, Y. Yin-Tang, *XIDIAN University, CHINA*

MONDAY SEPTEMBER 13, 2004

IWSSIP POSTER SESSION:

MULTIMEDIA COMMUNICATIONS

Chair: F. Leta

Location: Poster Hall

14:00 SIMULATION SYSTEM USED FOR PICTURE

-16:10 QUALITY AND BER EVALUATION IN DVB

Stand TRANSMISSION AREA

17 T. Kratochvíl, *Brno University of Technology, CZECH
REPUBLIC*

14:00 MODIFIED PRECODING TECHNIQUES

-16:10 USED BY THE VDSL TECHNOLOGY

Stand R. Róka, S. Dlháň, *Slovak University of Technology, SLOVAKIA*

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14:00 A REAL TIME SOFTWARE RADIO FOR THE AM

-16:10 LONG WAVE BAND

Stand O. Romain, B. Denby, S-A. Hariti, *Université Pierre et Marie
Curie, FRANCE*

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14:00 A SOFTWARE RADIO APPROACH TO

-16:10 COMMERCIAL FM CONTENT INDEXING

Stand B. Denby, O. Romain, S-A. Hariti, *Université Pierre et Marie
Curie, FRANCE*

23

Program of this session continues at the next page

- 14:00 EVALUATION OF A VISION BASED 2-BUTTON
-16:10 REMOTE CONTROL FOR INTERACTIVE
Stand TELEVISION
25 F. Shafait, M. Grimm, R-R. Grigat, *Hamburg University of
Technology, GERMANY*
- 14:00 SERVICE MANAGEMENT SYSTEM FOR
-16:10 INTERACTIVE TV DISTRIBUTION
Stand Th. Zahariadis, N. Zervos, N. Nikolaou, *Ellemedia Technologies,
GREECE*
27 D. Bariotas, S. Voliotis *Technological Educational Institute of
Chalkida, GREECE*
- 14:00 A NO-REFERENCE MEASURE FOR THE EFFECT OF
-16:10 PACKET-LOSS IN VIDEO STREAMING OVER IP
Stand R. V. Babu, A. S. Bopardikar, A. Perkis, O. I. Hillestad,
28 *Norwegian University of Science and Technology, NORWAY*
- 14:00 PERFORMANCE ANALYSIS FOR HANDOVER
-16:10 MANAGEMENT TECHNIQUES OVER MOBILE IPV6
Stand NETWORKS
30 O. EL-ghandour, E. Naguib, *Helwan University, EGYPT*
S. EL-ramly, *Ain Shams University, EGYPT*
- 14:00 SOFTWARE ROUTER – PACKET PROCESSING
16:10 EXECUTION TIMES
Stand C. Jędrzejek, *Poznań University of Technology, POLAND*
32 A. Flizikowski, *University of Technology and Agriculture
Bydgoszcz, POLAND*

MONDAY SEPTEMBER 13, 2004

ICESES ORAL SESSION:

ANALOGUE INTEGRATED CIRCUITS

Chair: H. Grabinski

Location: Room A

- 16:10 A FRAMEWORK FOR ANALOG PLATFORM CHARACTERIZATION
F. De Bernardinis, F. Vincis, S. Gambini, P. Terreni,
University of Pisa, ITALY
A. Sangiovanni Vincentelli, *University of California at Berkeley, USA*
- 16:30 LOW NEGATIVE INPUT IMPEDANCE AND OFFSET REDUCED CMOS CFA
M. Hirose, T. Shima, *Kanagawa University, JAPAN*
- 16:50 VERY LARGE TIME CONSTANT CMOS INTEGRATOR
T. Kulej, *Technical University of Częstochowa, POLAND*
- 17:10 TIME DOMAIN SENSITIVITY ANALYSIS
J. Dobeš, *Czech technical University in Prague, CZECH REPUBLIC*
- 17:30 LOW VOLTAGE CURRENT MODE ANALOG CIRCUITS BASED ON CMOS INVERTERS
W. Machowski, S. Kuta, J. Jasielski,
AGH University of Science and Technology, POLAND
- 17:50 APPLICATION OF CBCM METHOD TO NONLINEAR CAPACITOR CHARACTERIZATION
T. Sutorý, Z. Kolka, *Brno University of Technology, CZECH REPUBLIC*

MONDAY SEPTEMBER 13, 2004

ICSES ORAL SESSION: TELECOMMUNICATION SYSTEMS

Chair: Z. Papir

Location: Room C

- 16:10 INFORMATION CAPACITY EVALUATION FOR ADSL SYSTEMS IN CROSSTALK ENVIRONMENT
S. Majsner, *Technical University of Szczecin, Poland*
- 16:30 AUTOREGRESSIVE AND ADALINE NETWORK MODELING FOR WIRELESS COMMUNICATIONS
H. Yigit, A. Kavak, H.M. Ertunc, *Kocaeli University, TURKEY*
- 16:50 BIT RATE MODEL FOR DMT/OFDM SYSTEM WITH INSUFFICIENT GUARD INTERVAL
T. Twardowski, J. Bułat, T. Zieliński, *AGH University of Science and Technology, POLAND*
- 17:10 BITRATE OPTIMIZATION OF MULTICARRIER TRANSMISSION VIA COPPER WIRE IN THE PRESENCE OF RFI INTERFERENCES
J. Bułat, T. Zieliński, T. Twardowski, *AGH University of Science and Technology, POLAND*
- 17:30 A NEW METHOD FOR REDUNDANCY INSERTION AND CHANNEL EQUALISATION IN WILSON EXPANSION BASED TMUX
P. Turcza, *AGH University of Science and Technology, POLAND*
- 17:50 EFFICIENT ADAPTIVE ARRAY FORM RECEIVER ARCHITECTURE FOR HIGH DATA RATE CDMA SYSTEMS
L.V. Williams, J.H. Takala, *Tampere University of Technology, FINLAND*

MONDAY SEPTEMBER 13, 2004

ICSES ORAL SESSION: BIOMEDICAL SIGNAL PROCESSING

Chair: A. Materka

Location: Room 204

16:10 MEASURING SPATIAL VARIABILITY OF P AND T
WAVE SHAPES, THROUGH MULTI CHANNEL
RECORDS

B. Khaddoumi, H. Rix, O. Meste, *University of Nice-Sophia
Antipolis, FRANCE,*

M. Fereniec, R. Maniewski,
*Institute of Biocybernetics and Biomedical Engineering,
POLAND*

16:30 EMG SIGNAL ANALYSIS WITH WAVELET
TRANSFORM

P. Mazurkiewicz, *Poznań University of Technology, POLAND*

16:50 EFFICIENT IRIS RECOGNITION THROUGH 1D
WAVELET TRANSFORM

A.A. Qazi, *Hamburg, GERMANY*

17:10 A NOVEL FUZZY PENALIZED LIKELIHOOD
METHOD FOR PET IMAGE RECONSTRUCTION

Z. Jian, L. Limin, Z. Hongqing, *Southeast University, CHINA*

Program of this session continues at the next page

- 17:30 3D MEDICAL IMAGE SEGMENTATION AND
SURFACE MODELING USING THE POWER CRUST
K. Kies, A. Benyettou, *Département d'Informatique, U.S.T.O.
ALGERIA*
- 17:50 EFFICIENT TECHNIQUES OF SENSITIVITY
CALCULATION FOR ELECTRICAL IMPEDANCE
TOMOGRAPHY
L. Brančík, *Brno University of Technology, CZECH REPUBLIC*
- 18:10 DETECTION OF SMALL-SPOTS AND RUGOSE-
SHAPED MICRO-CALCIFICATIONS TO ASSIST IN
THE DIAGNOSES OF BREAST CANCER
A. Pereira, N. Marranghello, K. Yamaguchi,
São Paulo State University – UNESP, BRAZIL

MONDAY SEPTEMBER 13, 2004

IWSSIP ORAL SESSION: MULTIMEDIA SYSTEMS

Chair: J. Szajna

Location: PLENARY

- 16:10 A SURVEY ON THE INTERACTIVITY FEATURE OF MPEG-4
S. M. Tran, K. Lajos, E. Balazs, K. Fazekas, Sz. Csaba, *Budapest University of Technology and Economics, HUNGARY*
- 16:30 MULTITARGET TRACKING FOR MOTION CAPTURE MAN-MACHINE INTERFACES
P. Mazurek, *Technical University of Szczecin, POLAND*
- 16:50 SOLVING INVERSE KINEMATICS – JACOBIAN INVERSION METHOD IN A PLANE
M. Šoch, R. Lórencz, *Czech Technical University in Prague, CZECH REPUBLIC*
- 17:10 THE CONCEPT OF VR SYSTEM SUPPORTED BY DATA GATHERED BY MEANS OF OPTICAL 3D SHAPE MEASUREMENT SYSTEM
P. Garbat, M. Kujawinska, *Warsaw University of Technology, POLAND*
- 17:30 A WIRELESS TOUR GUIDE FOR HISTORICAL MONUMENTS
I. Vilović, *University of Dubrovnik, CROATIA*
B. Zovko-Cihlar, *Faculty of Electrical Engineering and Computing, CROATIA*

MONDAY SEPTEMBER 13, 2004

IWSSIP ORAL SESSION:

IMAGE ENHANCEMENT AND RECONSTRUCTION

Chair: F. Pereira

Location: Room B

- 16:10 FLICKER REMOVAL THROUGH HISTOGRAM MAPPING
K. K. Wong, A. Das, *Nanyang Technological University, SINGAPORE*
M. N. Chong, *GDC Technology Limited, HONG KONG*
- 16:30 EFFICIENT EDGE-SENSITIVE METHOD VERSUS OTHER IMAGE ENLARGEMENT TECHNIQUES
A. Kozłowski, P. Strumiłło, *Technical University of Łódź, POLAND*
- 16:50 IMPROVING 3D SCENE RECONSTRUCTION THROUGH THE APPLICATION OF GEOMETRIC CONSTRAINTS
L. Venturino, T. Gramegna, G. Cicirelli, G. Attolico, A. Distanto, *Istituto di Studi sui Sistemi Intelligenti per l'Automazione, ITALY*
- 17:10 COLOR IC IMAGE FUSION BASED ON LOCAL LINE MODEL
R. Guo, T. Chen, S. Peng, *Chinese Academy of Sciences, CHINA*
- 17:30 IMAGE RECONSTRUCTION BASED ON CONJUGATE GRADIENT METHOD WITH NUFFT AT ITS CORE
K. Malczewski, R. Stasiński, *Poznań University of Technology, POLAND*

TUESDAY SEPTEMBER 14, 2004

PLENARY SESSION

Chair: K. Fazezas

Location: PLENARY

9:00

MPEG-21 STANDARD: TOWARDS THE INTEGRATION OF MULTIMEDIA TECHNOLOGIES

Fernando Pereira,

*Instituto Superior Técnico – Instituto de Telecomunicações, Lisboa,
PORTUGAL*

IWSSIP POSTER SESSION: VIDEO PROCESSING

Chair: A. Buchowicz

Location: Poster Hall

10:00 FAST MOTION DETECTION ALGORITHM FOR

-12:10 DIGITAL IMAGE PROCESSING SYSTEMS

Stand 2 P. Lech, K. Okarama, *Technical University of Szczecin,
POLAND*

10:00 GRASS FIELD SEGMENTATION THE FIRST STEP

-12:10 TOWARD PLAYER TRACKING, DEEP

Stand 3 COMPRESSION AND CONTENT BASED FOOTBALL
IMAGE RETRIEVAL

K. Kangarloo, *Azad University, IRAN*

E. Kabir, *Tarbiat Modarres University, IRAN*

10:00 SPATIO-TEMPORAL WEIGHTED MYRIAD FILTER

-12:10 FOR ALPHA-STABLE NOISE

Stand 4 REMOVAL IN VIDEO SEQUENCES

M. El. Hassouni, H. Cherifi, *University of Bourgogne*

LIRSA, FRANCE

Program of this session continues at the next page

- 10:00 MPEG-2 LONG TIME VIDEO DCT COEFFICIENTS
-12:10 MODIFICATIONS FOR SCALING
Stand 5 K. Juskiewicz, *AGH University of Science and Technology, POLAND*
- 10:00 CREATION AND ANIMATION OF VIRTUAL
-12:10 HUMANS
Stand 7 E. Boyle, *Dublin City University, IRELAND*
- 10:00 FAST ALGORITHMS FOR SEGMENTATION OF
-12:10 MEDICAL VIDEO CONTENT AS A REPOSITORY OF
Stand 9 STRUCTURED MULTIMEDIA CONTENT
M. Duplaga, *Jagiellonian University Medical College, POLAND*
M. Leszczuk, Z. Papir, *AGH University of Science and Technology, POLAND*
- 10:00 AN EFFICIENT ARCHITECTURE OF H.264/AVC
-12:10 CAVLC DECODER
Stand D. Karwowski, *Poznań University of Technology, POLAND*
11
- 10:00 MATCHING PURSUIT FOR VIDEO CODING
-12:10 WITH DICTIONARY EXTRACTED FROM
Stand PREDICTED IMAGE
13 L. Górecki, M. Domański, *Poznań University of Technology, POLAND*
- 10:00 METADATA-BASED CODING TOOLS FOR MPEG-2
-12:10 VIDEO CODER
Stand S.Maćkowiak, M. Relewicz, *Poznań University of Technology, POLAND*
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TUESDAY SEPTEMBER 14, 2004

IWSSIP POSTER SESSION:

ARCHITECTURES FOR MULTIMEDIA SYSTEMS

Chair: Ž. Čučej

Location: Poster Hall

- 10:00 ADAPTIVE ARITHMETIC CODER
-12:10 IMPLEMENTATION IN FPGA DEVICE
Stand P. Wasilewski, *Technical University of Lodz, POLAND*
18
- 10:00 HIGH-EFFICIENT ARCHITECTURES OF THE
-12:10 CONTEXT ADAPTIVE BINARY ARITHMETIC
Stand CODER FOR H.264/AVC
20 G. Pastuszak, *Warsaw University of Technology, POLAND*
- 10:00 FPGA BASED SYSTEM FOR MPEG-7
-12:10 DESCRIPTORS EXTRACTION
Stand P. Śniatała, R. Rudnicki, *Poznań University of Technology,*
22 *POLAND*
A. Savakis, *Rochester Institute of Technology, USA*
- 10:00 VHDL IMPLEMENTATION OF CT PROCESSOR
-12:10 FOR PLD
Stand J. Turán, L. Ovseník, M. Benča, P. Filo, *University of*
24 *Technology Košice, SLOVAKIA*

TUESDAY SEPTEMBER 14, 2004

ICESES ORAL SESSION:

SYMBOLIC ANALYSIS AND ANALOG FILTER DESIGN

Chair: J. Osowski

Location: Room A

10:30 A CANCELLATION-FREE ALGORITHM FOR THE
SYMBOLIC ANALYSIS OF CIRCUITS CONTAINING
CURRENT CONVEYORS

S. Lasota, A. Malcher,
Silesian University of Technology, POLAND

10:50 A TOOL FOR SYMBOLIC ANALYSIS

Z. Kolka, V. Pospíšil, M. Horák,
Brno University of Technology, CZECH REPUBLIC

11:10 GENERALIZED CANONICAL FORMS OF ARC
FILTERS

R. Šponar, D. Kubánek,
Brno University of Technology, CZECH REPUBLIC

11:30 HIGH-ORDER ALL-PASS FILTERS USING
MULTIPLE-OUTPUT CURRENT-DIFFERENCING-
INPUT TRANSCONDUCTORS

T. Dostál, *Brno University of Technology, CZECH REPUBLIC*

11:50 ACTIVE FILTER WITH UVCs BASED ON THE STATE-
VARIABLE TOPOLOGY

D. Kubanek, R. Sponar, K. Vrba,
Brno University of Technology, CZECH REPUBLIC

TUESDAY SEPTEMBER 13, 2004

ICSES ORAL SESSION: DIGITAL SIGNAL PROCESSING

Chair: A. Dąbrowski

Location: Room B

- 10:30 EFFICIENT NONLINEAR SCHUR
PARAMETRIZATION OF HIGHER-ORDER
NONSTATIONARY STOCHASTIC SEQUENCES
J. Zarzycki, *Wroclaw University of Technology, POLAND*
- 10:50 A LOW DYNAMICS RECURSIVE LEAST-SQUARES
LATTICE ADAPTIVE ALGORITHM
C. Paleologu, S. Ciochină, A.A. Enescu,
"Politehnica" University of Bucharest, ROMANIA
- 11:10 STRATEGIES OF ADAPTIVE NOISE-CANCELLING
FILTER STRUCTURE SELECTION
P. Biernacki, *Wroclaw University of Technology, POLAND*
- 11:30 LINEAR PHASE PARAUNITARY FILTER BANKS
BASED ON QUATERNIONIC COMPONENT
M. Parfieniuk, A. Petrovsky,
Białystok Technical University, POLAND
- 11:50 THE NONUNIFORM SAMPLING RATE GENERATION
IN ULTRASONIC BEAMFORMERS
I. Lie, M. Tanase,
"Politehnica" University of Timisoara, ROMANIA

TUESDAY SEPTEMBER 14, 2004

ICESES ORAL SESSION:

ANALOGUE/DIGITAL CONVERTERS

Chair: A. Kos

Location: Room 204

- 10:30 DYNAMIC PARAMETERS TESTING OF 24-BIT
RESOLUTION ADCs
J. Vedral, J. Holub,
Czech Technical University, CZECH REPUBLIC
- 10:50 OPTIMIZATION OF ADC POWER CONSUMPTION
USING DIGITAL CALIBRATION
P. Nuzzo, F. De Bernardinis, P. Terreni,
University of Pisa, ITALY
- 11:10 ANALYSIS OF ADAPTIVE CYCLIC ADCs
PERFORMANCE UNDER NONIDEALITIES OF THEIR
INTERNAL ADCs
K. Jędrzejewski, *Warsaw University of Technology, POLAND*
- 11:30 ADVANCED SCHEME OF SIMULATION ANALYSIS
OF THE CYCLIC ADC PERFORMANCE
A.A. Platonov, Ł.M. Małkiewicz,
Warsaw University of Technology, POLAND
- 11:50 CONFIGURABLE SERIAL-BIT D/A CONVERTER FOR
MULTIPLE VALUED LOGIC
R. Jensen, Y. Berg, *University of Oslo, NORWAY*

TUESDAY SEPTEMBER 14, 2004

IWSSIP SPECIAL SESSION: MULTIMEDIA INDEXING

Chair: W. Skarbek

Location: PLENARY

- 10:30 FACE RECOGNITION METHODS – MPEG-7
PERSPECTIVE
K. Kucharski, W. Skarbek, *Warsaw University of Technology, POLAND*
- 11:10 FACE DETECTION AND TRACKING FOR VIDEO
INDEXING AND LOW BITRATE VIDEO
COMMUNICATION
B. Kwolek, *Rzeszów University of Technology, POLAND*
- 11:30 INDEX DESIGN FOR VISUAL FEATURES
G. Galiński, K. Wnukowicz, W. Skarbek, *Warsaw University of Technology, POLAND*
- 11:50 DATA DICTIONARY FOR INDEXING OF
DOMINANT COLOR TEMPERATURE
DESCRIPTIONS BASED ON M-TREES
K. Wnukowicz, *Warsaw University of Technology, POLAND*
- 12:10 MULTIMEDIA SEARCH AND RETRIEVAL SYSTEMS
– MPEG-7 APPLICATION
A. Buchowicz, K. Ignasiak, *Warsaw University of Technology, POLAND*

TUESDAY SEPTEMBER 14, 2004

IWSSIP ORAL SESSION:

AUDIO PROCESSING AND ANALYSIS

Chair: R. Makowski

Location: Room C

- 10:30 MUSICAL INSTRUMENT ESTIMATION USING
LINEAR PREDICTION METHOD
Y. Tadokoro, K. Tanishita, M. Yamaguchi, *Toyohashi University
of Technology, JAPAN*
- 10:50 DETECTION OF SCRATCH NOISE OF MUSIC
RECORDS USING WAVELET PACKETS AND ITS
RESTORATION
N. Ohtsuka, Y. Nagoshi, N. Hamada, *Keio University, JAPAN*
- 11:10 AN EXPERIMENT IN AUDIO CLASSIFICATION
FROM COMPRESSED DATA
R. Jarina, *University of Žilina, SLOVAKIA*
N. O'Connor, N. Murphy, S. Marlow, *Dublin City University,
IRELAND*
- 11:30 OBJECTIVE AUDIO QUALITY EVALUATION
OF BSAC-BASED MS-FEC
A. Szwabe, C. Jędrzejek, *Poznań University of Technology,
POLAND*
- 11:50 SEARCHING FOR SIMILARITIES OF
CONTEMPORARY CONCERT VIOLIN VOICES
USING MAXIMUM SOUND LEVEL CURVES AS
DESCRIPTORS
E. Łukasik, *Poznań University of Technology, POLAND*

TUESDAY SEPTEMBER 14, 2004

ICSES ORAL SESSION: DIGITAL VLSI CIRCUIT DESIGN

Chair: J. Rutkowski

Location: Room A

- 13:30 BIT-LINE BIASING TECHNIQUE FOR PHASE-CHANGE MEMORIES
F. Bedeschi, C. Resta, O. Khouri, *ST Microelectronics, ITALY*
C. Boffino, E. Bonizzoni, G. Torelli, *University of Pavia, ITALY*
- 13:50 DYNAMIC POWER OPTIMIZATION OF THE 8051 MICROCONTROLLER CORE IN EMBEDDED SYSTEMS
S. Saponara, A.J. Morello, F. Iozzi, L. Fanucci,
University of Pisa, ITALY
- 14:10 200 MV FULL ADDER BASED ON A RECONFIGURABLE CMOS PERCEPTRON
S. Aunet, Y. Berg, *University of Oslo, NORWAY*
B. Oelmann, *Mid-Sweden University, SWEDEN*
O.G. Lein, *Norwegian University of Science and Technology, NORWAY*
- 14:30 THE 1:11 PHASED DEMULTIPLEXER CIRCUIT
S. Poriakis, *Phasetronic Laboratories, GREECE*
- 14:50 A FPSoC FOR WAVELET-BASED IMAGE COMPRESSION
P. Corsonello, *University of Reggio Calabria, ITALY*,
S. Perri, P. Zicari, G. Cocorullo, *University of Calabria, ITALY*
- 15:10 A SOFTWARE PACKAGE FOR COMPUTER-AIDED LEARNING OF DIGITAL SYSTEMS
N. Marranghello, A.S. Pereira, M. Murari, F. Damiani,
P.J. Tatach, *São Paulo State University – UNESP, BRAZIL*

TUESDAY SEPTEMBER 14, 2004

ICSES ORAL SESSION: HIGH FREQUENCY ELECTRONICS

Chair: J. Dobrowolski

Location: Room 204

- 13:30 DESIGN AND IMPLEMENTATION OF A DUAL-LOOP
FREQUENCY SYNTHESIZER FOR 5 GHz WLANs
F. Plessas, S. Vatti, G. Kalivas, *University of Patras, GREECE*
- 13:50 MODELING AND DESIGN OF A TUNABLE HIGH Q
LNA FOR WLAN
D. Zito, F. de Bernardinis, B. Neri, *Università di Pisa, ITALY*
- 14:10 A DESIGN APPROACH FOR OPTIMUM RESISTIVE
DIODE FREQUENCY MULTIPLIERS
D.M. Treyer, W. Bächtold,
Swiss Federal Institute of Technology (ETH), SWITZERLAND
- 14:30 SIMPLE MODEL OF OPTICAL RECEIVER
INPUT CIRCUITS
A. Prokeš, *Brno University of Technology, CZECH REPUBLIC*
- 14:50 A SINGLE-CHIP 2.5-GB/S CMOS OPTICAL
RECEIVER IN 0.35 μ M TECHNOLOGY
A. Zarifkar, M. Jalali, A. Emami,
Iran Telecommunication Research Center (ITRC), IRAN

TUESDAY SEPTEMBER 14, 2004

IWSSIP ORAL SESSION: VIDEO FEATURE EXTRACTION

Chair: W. Skarbek

Location: PLENARY

- 13:30 VIDEO CUT DETECTION WITHOUT THRESHOLDS
R. Ewerth, *University of Siegen, GERMANY*
B. Freisleben, *University of Marburg, GERMANY*
- 13:50 FAST VIDEO INDEXING AND IDENTIFICATION:
APPLICATION OF CASIT METHOD TO VIDEO (CASIV
METHOD)
L. Guezouli, H. Essafi, *CNRS Gif-sur-Yvette, FRANCE*
B. Goossens, *Université de Perpignan, FRANCE*
- 14:10 LOW-LEVEL CROSS-MEDIA STATISTICAL APPROACH
FOR SEMANTIC PARTITIONING OF AUDIO-VISUAL
CONTENT IN A HOME MULTIMEDIA ENVIRONMENT
J. Nesvadba, *Philips Research Laboratories, THE NETHERLANDS*
N. Louis, J. Benois-Pineau, M. Desainte-Catherine, *University of
Bordeaux, FRANCE*,
M. K. Middelink, *Philips Digital Systems Laboratory, THE
NETHERLANDS*
- 14:30 GLOBAL PATTERN SELECTION FOR COMPRESSION,
HISTOGRAM DATABASE RETRIEVAL
D. Zhong, I. Defée, *Tampere University of Technology, FINLAND*

Program of this session continues at the next page

- 14:50 A FRAMEWORK FOR EVENT DETECTION IN FIELD-SPORTS VIDEO BROADCASTS BASED ON SVM GENERATED AUDIO-VISUAL FEATURE MODEL. CASE-STUDY: SOCCER VIDEO.
D. A. Sadlier, N. O'Connor, N. Murphy, S. Marlow, *Dublin City University, IRELAND*
- 15:10 SEGMENTATION RELIABILITY USING TEMPORAL ANALYSIS FOR OUTLIER REMOVAL IN PLAYER IDENTIFICATION
E. L. Andrade, J. C. Woods, M. Ghanbari, *University of Essex, UNITED KINGDOM*

TUESDAY SEPTEMBER 14, 2004

IWSSIP ORAL SESSION: STILL IMAGE PROCESSING

Chair: R. Stasiński

Location: Room B

- 13:30 RAY-SPACE INTERPOLATION CONSTRAINING
SMOOTH DISPARITIES BASED ON
LOOPY BELIEF PROPAGATION
M. Droese, T. Fujii, M. Tanimoto, *Nagoya University, JAPAN*
- 13:50 A SIMPLE METHOD OF VIRTUAL SAMPLE FOR A
CLASS OF COARSE-FIBRE DESIGN
X.Tian, J. Li, *Macau University of Science and Technology,
MACAO*
Q. Tian, *Tsinghua University, CHINA*
- 14:10 AUTOMATIC COLOR CORRECTION TO
RECOMPOSE FRAGMENTED FRESCOS
G. Carlomagno, F. Renna, N. Mosca G. Attolico A. Distanto,
*Istituto di Studi sui Sistemi Intelligenti per l'Automazione –
C.N.R., ITALY*
- 14:30 IMAGE DENOISING BASED ON LOCAL GAUSSIAN
MIXTURE MODEL OF DUAL-TREE COMPLEX
WAVELET TRANSFORM
Z. Xiao, W. Wen, S. Peng, *Chinese Academy of Sciences,
CHINA*
- 14:50 CUBIC VECTOR MEDIAN FILTER FOR NOISE
REDUCTION AND IMPROVEMENT OF
COMPRESSION EFFICIENCY
H. Norell, A. Ericsson, M. O'Nils, *Mid-Sweden University,
SWEDEN*

TUESDAY SEPTEMBER 14, 2004

IWSSIP ORAL SESSION: IMAGE DATA COMPRESSION

Chair: M. Bartkowiak

Location: Room C

- 13:30 EFFICIENT ADAPTIVE LOSSLESS STEREO IMAGE CODING
U. Ahlvers, U. Zoelzer, G. Heinrich, *Helmut-Schmidt-University / University of the Federal Armed Forces, GERMANY*
- 13:50 A NOVEL IMAGE CODING ALGORITHM USING ANT COLONY SYSTEM VECTOR QUANTIZATION
N. Rajpoot, *University of Warwick, UNITED KINGDOM*
A. Hussain, U. Ali, K. Saleem, M. Qureshi, *GIK Institute of Engineering Sciences & Technology, PAKISTAN*
- 14:10 CONTROLLING MOTION ESTIMATION SEARCH PARAMETERS FOR A POWER-OPTIMIZED VIDEO ARCHITECTURE IN H.264/AVC
S. Saponara, M. Melani, L. Fanucci, P. Terreni, *University of Pisa, ITALY*
- 14:30 COSINE TRANSFORM ANALYSIS WITH APPLICATIONS TO MPEG-2 VIDEO CODER CONTROL
A. Łuczak, M. Domański, *Poznań University of Technology, POLAND*
- 14:50 A MOTION-BASED SEGMENTATION SCHEME FOR OBJECT-ORIENTED VIDEO CODING
Y. Luo, D. Xu, I. French, *University of Teesside, UNITED KINGDOM*

TUESDAY SEPTEMBER 14, 2004

ICSES/IWSSIP JOINT POSTER SESSION:
ADVANCES IN SIGNAL PROCESSING

Chair: P. Turcza

Location: Poster Hall

- 13:30 ESTIMATION OF THE FREQUENCIES OF THE
-15:10 MULTICOMPONENT SIGNAL
Stand 1 B. Szlachetko, *Wroclaw University of Technology, POLAND*
- 13:30 VECTORIZATION ASPECTS OF DWT
-15:10 IMPLEMENTATION
Stand 3 A. Țariov, T. Maka, G. Țariova,
Technical University of Szczecin, POLAND
- 13:30 WAVEFORMS CLASSIFICATION BY OPTIMAL
-15:10 MULTIREOLUTION ANALYSIS
Stand 5 A. Maitrot, M-F. Lucas, C. Doncarli, *Institut de Recherche en
Communication et Cybernétique de Nantes (IRCCyN), FRANCE*
- 13:30 GEOMETRIC MODEL GENERATION MODIFIED BY
-15:10 LIGHT STRIPE PROJECTION
Stand 7 J. Doi, W. Sato, Y. Miyamoto, M. Yamanaka, R. Sawada,
Chiba Institute of Technology, JAPAN
- 13:30 C VERSUS ASSEMBLY IMPLEMENTATION OF
-15:10 SMART ANTENNA BEAMFORMERS ON FLOATING
Stand 9 POINT DSPs
K. Kucuk, M. Karakoc, *Kocaeli University, TURKEY*
A. Kavak, *Kocaeli University, TURKEY*

Program of this session continues at the next page

13:30 DESIGN OF A DIGITAL ALLPASS FILTER FOR
-15:10 EQUALIZATION OF A GROUP DELAY FREQUENCY
Stand RESPONSE
11 P. Žiška, M. Laipert,
Czech Technical University in Prague, CZECH REPUBLIC

13:30 MEASUREMENT OF OBJECT POSITION USING
-15:10 ACCELEROMETER
Stand M. Iwanczewski, M. Jaskuła,
13 *Technical University of Szczecin, POLAND*

13:30 IMAGE REPRESENTATION IN ITERATIVE IMAGE
-15:10 RECONSTRUCTION BASED ON POLYNOMIAL
Stand WINDOWS
15 W. Chlewicki M. Jaskuła,
Technical University of Szczecin, POLAND

13:30 THE POLYNOMIAL WINDOW AND ITS ABEL
-15:10 TRANSFORM
Stand M. Jaskuła, *Technical University of Szczecin, POLAND*
16

13:30 DEPTH COMPUTATION IN STEREOVISION AIDED
15.10 BLIND NAVIGATION
Stand F. Wong, R. Nagarajan, S. Yaacob,
17 *Universiti Malaysia Sabah, MALAYSIA*

13:30 WAVELET PACKETS DENOISING OF RF PULSES
-15:10 BASED ON HIGHER-ORDER-STATISTIC
Stand THRESHOLDING
19 O. A. M. Aly, A. S. Omar, *University of Magdeburg, GERMANY*
G. Nadim, *Cairo University, EGYPT*

Program of this session continues at the next page

- 13:30 DETECTION AND ESTIMATION OF
-15:10 MULTICOMPONENT CHIRP SIGNAL USING
Stand STFT RIDGES
21 Q. Changwen, H.You, S. Feng, *Naval Aeronautical Engineering
Institute, CHINA*
- 13:30 AN EFFECTIVE AUTOCORRELATION MODEL FOR
-15:10 ESTIMATION OF ARMA PARAMETERS FROM
Stand NOISY OBSERVATIONS
23 N. M. Hossain, M. S. I. Patwary, A. M. M. Reza, Md. K. Hasan,
*Bangladesh University of Engineering and Technology,
BANGLADESH*
- 13:30 USING DESCRIPTIVE GEOMETRY TO ACQUIRE
-15:10 THREE DIMENSIONAL DATA OF A SINGLE IMAGE
Stand F. R. Leta, A. Conci, R. Borges, *Universidade Federal
Fluminense, BRASIL*
24

WEDNESDAY SEPTEMBER 15, 2004

PLENARY SESSION

Chair: M. Tanimoto

Location: PLENARY

9:00

TALKING FACES – TECHNOLOGIES AND APPLICATIONS

Jörn Ostermann, *Institut für Theoretische Nachrichtentechnik und Informationsverarbeitung, Universität Hannover, Hannover, GERMANY*

ICESES POSTER SESSION: FPGA APPLICATIONS

Chair: P. Śniatała

Location: Poster Hall

10:00 AN AREA-EFFICIENT FPGA IMPLEMENTATION OF
-12:10 A DISPARITY ESTIMATION SCHEME FOR REAL-
Stand 2 TIME COMPRESSION OF IP IMAGES
D. Chaikalis, D. Maroulis, N. Sgouros, N. Theofanous,
National and Kapodistrian University of Athens, GREECE,
P. Papageorgas, *Dept. of Electronics, GREECE,*

10:00 MONTGOMERY MULTIPLICATION ON FPGA WITH
-12:10 MODIFIED CARRY-SAVE ENCODING
Stand 4 J. Buček, R. Lórencz,
Czech Technical University, CZECH REPUBLIC

10:00 FPGA-BASED IMPLEMENTATION OF CT AND DT
-12:10 MULTI-LAYER CNNs
Stand 5 A.D. Grasso, R. Mita, G. Palumbo, *University of Catania, ITALY*

Program of this session continues at the next page

- 10:00 DYNAMIC RECONFIGURATION IN FPGA:
-12:10 A DEMONSTRATIVE SPACE APPLICATION
Stand 7 S. Baldacci, T. Ramacciotti, *Kayser Italia Srl, ITALY*,
V. Zolesi, *University of Pisa, ITALY*
- 10:00 LMS NOISE CANCELLER IMPLEMENTATION ON A
-12:10 FPGA SYSTEM
Stand 9 E.B. Arámuro, *ESIME Culhuacán, MEXICO*,
A.C. Dimas, *University in Prague, CZECH REPUBLIC*
- 10:00 A NOVEL ECHO CANCELLER FOR SHDSL SYSTEM
-12:10 Ch-S. Wu, S-H. Yen, D-Ch. Peng,
Stand *Industrial Technology Research Institute, TAIWAN*
11
- 10:00 PROGRAMMABLE TEST PATTERN GENERATOR
-12:10 FOR DIGITAL CIRCUITS PROTOTYPING
Stand M. Kropidłowski, A. Handkiewicz,
13 *Poznań University of Technology, POLAND*
- 10:00 CPLD BASED PULSE - ECHO PROCESSOR
12:10 I. Lie, M.E. Tanase,
Stand „*Politehnica*“ *University of Timisoara, ROMANIA*
15

WEDNESDAY SEPTEMBER 15, 2004

IWSSIP POSTER SESSION:

SPEECH AND AUDIO PROCESSING

Chair: Y. Tadokoro

Location: Poster Hall

10:00 VOICED SOUNDS SYNTHESIS USING

-12:10 MECHANICAL MODELS

Stand E. Cataldo, F. R. Leta, L. Nicolato, *Universidade Federal*

17 *Fluminense, BRAZIL*

J. Lucero, *Universidade de Brasilia, BRAZIL*

10:00 NOISE REDUCTION ALGORITHM FOR

-12:10 ESOPHAGEAL VOICES

Stand B. García, J. Vicente, I. Ruiz, A. Alonso, E. Loyo, *Deusto*

19 *University, SPAIN*

10:00 LONG-TIME ANALYSIS OF GLOTTAL PULSE

-12:10 WAVEFORM IN STRESSED SPEECH RECOGNITION

Stand M. Boštík, M. Sigmund, *Brno University of Technology, CZECH*

20 *REPUBLIC*

10:00 TOWARDS A UNIFIED FRAMEWORK FOR

-12:10 MACHINE ASSESSMENT OF SPEECH

Stand INTELLIGIBILITY

21 F.F. Li, *Manchester Metropolitan University, UNITED*

KINGDOM

10:00 IMPROVING SPEECH RECOGNITION ACCURACY

-12:10 USING HMM AND DTW METHODS

Stand R. Wielgat, *Higher State Vocational School in Tarnów,*

22 *POLAND*

Program of this session continues at the next page

- 10:00 APPLYING INDEPENDENT COMPONENT
-12:10 ANALYSIS FOR SPEECH FEATURE DETECTION
Stand W. Kasprzak, A. F. Okazaki, *Warsaw University of Technology*,
24 *POLAND*
- 10:00 IMAGE PROCESSING APPROACH FOR AUDIO
-12:10 SIGNAL SPECTROGRAM ANALYSIS
Stand J. Krejčí *Brno University of Technology*, *CZECH REPUBLIC*
25
- 10:00 SPEECH SIGNAL DECOMPOSITION INTO PERIODIC
-12:10 AND NOISE COMPONENTS BASED ON THE TIME-
Stand VARYING DISCRETE FOURIER TRANSFORM
27 P. Zubrycki, A. Petrovsky, *Białystok Technical University*,
POLAND
- 10:00 DIRECTION-OF-ARRIVAL ESTIMATION OF SPEECH
-12:10 SOURCE USING 8-MICROPHONE ARRAY IN 3D
Stand V. Eksler, *Brno University of Technology*, *CZECH REPUBLIC*
28
- 10:00 A SELF-SYNCHRONIZATION BLIND AUDIO
-12:10 WATERMARKING ALGORITHM
Stand S. Sun, P. Qiu, *Zhejiang University*, *CHINA*
29
- 10:00 THE IMPACT OF FINITE WORD LENGTH ON IMDCT
-12:10 COMPUTATION IN MPEG-2 AAC DECODING
Stand M. Bartkowiak, T. Żernicki, *Poznań University of Technology*,
31 *POLAND*

WEDNESDAY SEPTEMBER 15, 2004

ICSES ORAL SESSION: VLSI CIRCUIT IMPLEMENTATION

Chair: S. Kuta

Location: Room A

- 10:30 **A HIGH-ACCURACY BIPOLAR BAND-GAP
REFERENCE CIRCUIT DESIGN**
X. Lai, *Xidian University, CHINA*
D. Xu, *University of Teesside, UK*
W. Jingqiu, F. Chen, *Xidian University, CHINA*
- 10:50 **IMPROVED CMOS BANDGAP VOLTAGE
REFERENCE**
S. Vesa, J. Tanskanen, E.O. Ristolainen,
Tampere University of Technology, FINLAND
- 11:10 **FAST-RECOVERY CMOS VOLTAGE REGULATOR FOR
LARGE CAPACITIVE LOADS**
F. Bedeschi, O. Khouri, C. Resta, *STMicroelectronics, ITALY*,
G. Torelli, C. Boffino, E. Bonizzoni, *University of Pavia, ITALY*
- 11:30 **TIMING DRIVEN PLACEMENT WITH GATE SIZING
AND BUFFER INSERTION**
M. Yoshikawa, H. Terai, *Ritsumeikan University, JAPAN*
- 11:50 **EXPERIMENTAL SETUP FOR UV- PROGRAMMING
OF FLOATING-GATE MOS CIRCUITS**
B. Oelmann, F. Linnarsson, *Mid Sweden University, SWEDEN*,
S. Aunet, Y. Berg, *University of Oslo, SWEDEN*

WEDNESDAY SEPTEMBER 15, 2004

ICESES ORAL SESSION: IMAGE PROCESSING

Chair: M. Tanimoto

Location: Room B

- 10:30 MASSIVELY PARALLEL ARCHITECTURE FOR AN UNSUPERVISED SEGMENTATION MODEL
S.C. Stilkerich, *EADS Corporate Research Center, GERMANY*,
J.M. Buhmann, *Swiss Federal Institute of Technology, SWITZERLAND*
- 10:50 MORPHOLOGICAL REDUCTION OF MODIFIED SHAPE DECOMPOSITION REDUNDANCY
D.N. Vizireanu, R.M. Udrea, *Politehnica University of Bucharest, ROMANIA*
- 11:10 IMAGE DISTORTION ANALYSIS IN PATH TRACING ALGORITHM IN TERMS OF MEDIAN FILTER TECHNIQUES USAGE
M. Szaber, *Technical University of Szczecin, POLAND*
- 11:30 IMPROVED WEIGHTED LEAST SQUARES ALGORITHM FOR PET IMAGE RECONSTRUCTION USING ITERATIVE COORDINATE DESCENT ALGORITHMS
H-Q. Zhu, J. Zhou, H-Z. Shu, L-M. Luo, *Southeast University, CHINA*
- 11:50 HYBRID SYSTEM FOR MEDICAL IMAGES INTERPRETATION
A. Aribi, N. Benamrane, *Université des Sciences et de la Technologie d'Oran USTO, ALGERIA*

WEDNESDAY SEPTEMBER 15, 2004

ICSES ORAL SESSION:

TOLERANCING, TESTING AND FAULT DETECTION

Chair: J. Tyszer

Location: Room 204

10:30 DESIGN TOLERANCING WITH UTILIZATION OF
GENE EXPRESSION PROGRAMMING AND GENETIC
ALGORITHM

L. Zielinski, J. Rutkowski,
Silesian University of Technology, POLAND

10:50 AUTOMATED DIAGNOSTIC SYSTEM IN ANALOG
TESTING

P. Bilski, J. Wojciechowski,
Warsaw University of Technology, POLAND

11:10 APPLICATION OF GENETIC ALGORITHMS TO
OPTIMUM TEST POINT SELECTION WITH THE USE
OF MULTIPLE INPUT STIMULI

L. Zieliński, B. Puchalski, J. Rutkowski,
Silesian University of Technology, POLAND

11:30 FAULT DETECTION IN ANALOG CIRCUITS WITH
THE USE OF MULTI-FREQUENCY FAULT
DICTIONARY

B. Puchalski, J. Rutkowski,
Silesian University of Technology, POLAND

11:50 SUPPORT VECTOR MACHINE APPROACH TO THE
FAULT LOCATION IN POWER TRANSMISSION LINE

R. Salat, *University of Agriculture Warsaw, POLAND*
S. Osowski, *Warsaw University of Technology and Military
University of Technology Warsaw, POLAND*

WEDNESDAY SEPTEMBER 15, 2004

INTERACTIVE TELEVISION WORKSHOP I

Chair: R. Sitnik

Location: PLENARY

- 10:30 CONCEPT OF INTERACTIVE TELEVISION (iTVP)
PLATFORM
K. Warmiński, Z. Pióro, *Polish Television S.A., POLAND*
R. Sitnik, *Warsaw University of Technology, POLAND*
- 10:50 TWO-LEVEL CONTENT DELIVERY SYSTEM IN
PIONIER OPTICAL NETWORK FOR INTERACTIVE
TV SERVICES
M. Czynnek, C. Mazurek, M. Stroiński, *Poznań
Supercomputing and Networking Center, POLAND*
- 11:10 CREATION OF DIGIAL CONTENT COMPONENTS
ON THE iTVP PLATFORM
R. Sitnik, P. Garbat, A. Wiechowski, M. Pawłowski,
M. Witkowski, W. Załuski, S. Paško, *Warsaw University of
Technology, POLAND*
- 11:30 AN ARCHITECTURE FOR PARAMETERISED
PRODUCTION OF INTERACITVE TV CONTENTS
K. Walczak, W. Cellary, J. Chmielewski, M. Stawniak,
S. Strykowski, W. Wiza, R. Wojciechowski, A. Wójtowicz,
The Poznan University of Economics, POLAND
- 11:50 SOFTWARE AUDIO CODEC FOR INTERACTIVE
TELEVISION
M. Bartkowiak, T. Żernicki, *Poznań University of Technology,
POLAND*

WEDNESDAY SEPTEMBER 15, 2004

IWSSIP ORAL SESSION:

FACE DETECTION AND RECOGNITION

Chair: J. Ostermann

Location: Room C

- 10:30 A MODIFIED NEAREST NEIGHBOUR CLASSIFIER
IN MULTI-LINEAR ANALYSIS OF FACIAL IMAGES
J. Mazur, *Wroclaw University of Technology, POLAND*
- 10:50 RELIABLE FACE DETECTION IN NATURAL
SCENES
N. A. Khan, M. H. Khan, A. Zuberi, *Lahore University of
Management Sciences, PAKISTAN*
- 11:10 FACIAL FEATURES AND APPEARANCE-BASED
CLASSIFICATION FOR FACE DETECTION IN
COLOR IMAGES
S. Cooray, N. O'Connor, *Dublin City University, IRELAND*
- 11:30 FACE RECOGNITION SYSTEM IN CLIENT/SERVER
ARCHITECTURE
A. Nowosielski, M. Mikłasz, *Technical University of Szczecin,
POLAND*
- 11:50 MINIMAX FACE RECOGNITION TECHNIQUE
BASED ON VECTOR QUANTIZATION IN THE
TRANSFORM DOMAIN
E. Saad, A. Abdelwahab, M. Aboulwafa, R. Darwish, *Helwan
University, EGYPT*

WEDNESDAY SEPTEMBER 15, 2004

ICESES ORAL SESSION: SPEECH ANALYSIS

Chair: E. Łukasik

Location: Room 204

- 13:30 THE MODIFICATION OF RABINER – SAMBUR
ALGORITHM FOR DETERMINING THE ENDPOINTS
OF ISOLATED WORDS
P. Walendowski, *Wroclaw University of Technology, POLAND*
- 13:50 CHANNEL AND SPEAKER VARIETY
COMPENSATION USING MODIFIED EIGENVOICES
ALGORITHM
P. Mrówka, R. Makowski, *Wroclaw University of Technology,
POLAND*
- 14:10 APPLICATION OF SELECTED SPEECH-SIGNAL
CHARACTERISTICS TO EMOTION RECOGNITION IN
POLISH LANGUAGE
J. Cichosz, K. Ślot, *Technical University of Lodz, POLAND*
- 14:30 IMPROVING THE PERFORMANCE OF SPEAKER
VERIFICATION SYSTEMS IN NOISY
ENVIRONMENTS
C.A. Medina, J.A.Jr. Apolinário, *IME - Department of Electrical
Engineering, BRAZIL*
A. Alcaim, *CETUC/PUC-Rio, BRAZIL*
- 14:50 ADAPTIVE TWO-SIDED PITCH PREDICTION
FILTERS FOR PATHOLOGICAL VOICES ANALYSIS
A. Kacha, F. Grenez, F. Bettens, J. Schoentgen, *Université Libre
de Bruxelles, BELGIUM*

WEDNESDAY SEPTEMBER 15, 2004

ICSES ORAL SESSION: DIGITAL SYSTEM DESIGN

Chair: J. Wojciechowski

Location: Room A

- 13:30 A NOVEL PROCESSOR ARCHITECTURE FOR NETWORK APPLICATIONS
A. Ramazani, C. Diod, F. Monteiro, A. Dandache,
LICM – University of Metz, FRANCE
- 13:50 LOGIC SYNTHESIS IMPORTANCE IN FPGA-BASED DESIGNING OF INFORMATION AND SIGNAL PROCESSING SYSTEMS
M. Rawski, P. Tomaszewicz, T. Łuba,
Warsaw University of Technology, POLAND
- 14:10 A COMPARISON BETWEEN LOCAL AND GLOBAL MEMORY ALLOCATION FOR FPGA IMPLEMENTATION OF REAL-TIME VIDEO PROCESSING SYSTEMS
M. O'Nils, B. Thörnberg, H. Norell,
Mid Sweden University, SWEDEN
- 14:30 A HIGH FLEXIBLE 8-BIT AND 16-BIT SIMD SOFT MICROCONTROLLER FOR FPGAs
S. Perri, *University of Calabria, ITALY*,
P. Zicari, P. Corsonello, *University of Reggio Calabria, ITALY*
- 14:50 VHDL-BASED DESCRIPTION OF BIQUAD FILTERS
R. Mita, G. Palumbo, *DIEES - Università di Catania, ITALY*

WEDNESDAY SEPTEMBER 15, 2004

ICSES ORAL SESSION: TOOLS FOR E-LEARNING

Location: I. Defée

Chair: Room B

- 13:30 A NOVEL METHOD FOR AUTOMATED SHORT TECHNICAL ANSWER SCORING USING THE POLISH LANGUAGE
R. Renk, K. Maliński, P. Mielczanek,
University of Technology and Agriculture Bydgoszcz, POLAND
C. Jędrzejek, *Poznań University of Technology, POLAND*
- 13:50 EDL.v02, AN EDUCATIONAL PLATFORM FOR DATA ACQUISITION AND CONTROL APPLICATIONS
E. Zigouris, *University of Patras, GREECE*
N. Mousouroulis, N-A.I. Livanos,
Advanced Technology Engineering (ate), GREECE
- 14:10 AN INTEGRATED LOW-COST LABORATORY ENVIRONMENT FOR DIGITAL IMAGE PROCESSING APPLICATIONS
E. Zigouris, D. Petropoulos, M. Kristalli,
M. Hatzigiorgaki, *University of Patras, GREECE*
- 14:30 SOFTWARE TOOL FOR EDUCATION OF CARRIER RECOVERY FOR MPSK AND MQAM SIGNALS
J. Prokopec, A. Prokeš,
Brno University of Technology, CZECH REPUBLIC
- 14:50 ELECTRONIC SIMULATIONS WITHIN A POLYMORPH PEDAGOGICAL CANVAS FOR ON-LINE EDUCATION
S. Rouvrais, J-M. Giliot, G. Graton, D. Degrugiller *Ecole Nationale Supérieure des Télécommunications de Bretagne, FRANCE*

WEDNESDAY SEPTEMBER 15, 2004

INTERACTIVE TELEVISION WORKSHOP II

Chair: M. Stroiński

Location: PLENARY

- 13:30 AUDIOVISUAL SYNTHESIS FOR POLISH
K. Marasek, K. Kalinowski, P. Pawłowski, *Polish-Japanese
Institute of Information Technology, POLAND*
- 13:50 MPEG-4 BINARY FORMAT CODEC FOR SCENE
DESCRIPTION
A. Kaczor, S. Maćkowiak, *Poznań University of Technology,
POLAND*
- 14:10 MANAGEMENT AND PUBLISHING OF DIGITAL
CONTENT ON THE iTVP PLATFORM
M. Czynnek, C. Mazurek, M. Stroiński, *Poznań Supercomputing
and Networking Center, POLAND*
- 14:30 OPEN AND STANDARDS BASED DIGITAL RIGHTS
MANAGEMENT FRAMEWORK FEASIBILITY
STUDY
S. Kreutzinger, *ATM S.A., POLAND*
- 14:50- INTERACTIVE DIGITAL TV SERVICES
-15:20 M. Zalewski, J. Wechta, *Advanced Digital Broadcast Polska,
POLAND*

WEDNESDAY SEPTEMBER 15, 2004

IWSSIP ORAL SESSION:

SIGNAL PROCESSING ALGORITHMS

Chair: J. Zarzycki

Location: Room C

- 13:30 SIGNAL REPRESENTABILITY
P. D. Cristea, *University "Politehnica" of Bucharest, ROMANIA*
- 13:50 OPTIMAL SAMPLING STRUCTURE OF IMAGE
SENSORS FROM THE POINT OF VIEW OF IMAGE
QUALITY
J. Hozman, K. Fliegel, *Czech Technical University, CZECH
REPUBLIC*
- 14:10 REGION FEATURE-BASED SEGMENTATION OF
TIME-FREQUENCY IMAGES
A. Łoza, N. Canagarajah, D. Bull, *University of Bristol, UNITED
KINGDOM*
- 14:30 SIGNAL SEPARATION WITH PRINCIPAL
COMPONENT ANALYSIS FOLLOWED BY
ROTATION
A. Dąbrowski, D. Cetnarowicz, *Poznań University of
Technology, POLAND*
- 14:50 GENERALIZED CONVOLUTION WITH WINDOWING
IN THE PRIMARY DOMAIN
P. Korohoda, *AGH University of Science and Technology,
POLAND*

WEDNESDAY SEPTEMBER 15, 2004

ICES POSTER SESSION:

INTEGRATED CIRCUIT DESIGN AND APPLICATION

Chair: S. Osowski

Location: Poster Hall

13:30 ALL NPN SOLID STATE POWER CONTROLLER
-15:40 M. Balucani, P. Nenzi, *University of Rome "La Sapienza"*,
Stand 1 *ITALY*

13:30 HIGH LEVEL AGEING VECTORS MANAGEMENT
-15:40 FOR DATA INTENSIVE APPLICATIONS
Stand 2 G. Corre, E. Senn, N. Julien, E. Martin,
LESTER / University of South Brittany, FRANCE

13:30 FRONT-END ELECTRONICS FOR SOI MONOLITHIC
-15:40 ACTIVE PIXEL SENSORS
Stand 3 H. Niemiec, W. Kucewicz,
AGH – University of Science and Technology, POLAND

13:30 MULTIPLE LASER SPOT TRACKING WITH
-15:40 POSITION SENSITIVE DETECTORS
Stand 4 O. Wilfert, Z. Kolka,
Brno University of Technology, CZECH REPUBLIC

13:30 ESTIMATION OF INTERCONNECT PROPAGATION
-15:40 DELAY IN VLSI CIRCUITS
Stand 5 A. Ligocka, W. Bandurski,
Poznań University of Technology, POLAND

13:50 A TUNABLE V-BAND IMAGE REJECTION MIXER
-15:40 D.M. Treyer, W. Bächtold,
Stand 6 *Swiss Federal Institute of Technology (ETH), SWITZERLAND*

Program of this session continues at the next page

- 13:30 DESIGN, OPTIMIZATION, AND REALIZATION OF
-15:40 CLOCK SYSTEMS FOR SC FIR FILTERS
Stand 7 A. Dąbrowski, R. Długosz, P. Pawłowski
Poznań University of Technology, POLAND
- 13:30 AN ADVANCED BIT-LINE CLAMPING SCHEME IN
-15:40 MAGNETIC RAM FOR WIDE SENSING MARGIN
Stand 9 J-C. Lim, H-S. Yu, S-H. Song, S-W. Kim,
Korea University, KOREA
- 13:30 ANALYSIS OF FLUORINATED POLYIMIDE
-15:40 WAVEGUIDE DIRECTIONAL COUPLERS
Stand A.A. Abou El-fadl, A.M.J. Dabroom, *Jeddah College of*
10 *Telecommun. & Electron, SAUDI ARABIA*
- 13:30 ADC CLOCK GENERATOR FOR TV IF SIGNAL
-15:40 PEAK DETECTION
Stand Ch-H. Choo, J-S. Choi, S-W. Kim, *Korea University, KOREA*
11
- 13:30 AN ALL-DIGITAL PHASE-LOCKED LOOP
-15:40 SUITABLE FOR CLOCK RECOVERY WITH DCO
Stand BASED ON SHUNT CAPACITOR DELAY CELLS
12 L. Fanucci, *Italian National Research Council, ITALY*,
F. Bigongiari, *Aurelia Microelettronica, ITALY*,
R. Roncella, R. Saletti, *University of Pisa, ITALY*
- 13:30 5.25 GHz SiGe-CMOS 0.35 μm FULLY INTEGRATED
-15:40 POWER AMPLIFIER
Stand L. Benedettini, B. Neri, D. Zito, *Università di Pisa, ITALY*
13

Program of this session continues at the next page

13:30 5.25 GHz FULLY INTEGRATED HETERODYNE
-15:40 DOWN-CONVERTER WITH HI-IMAGE REJECTION
Stand L. Fanucci, *Consiglio Nazionale delle Ricerche (CNR), ITALY*
15 E. Greco, N. Nardini, B. Neri, D. Zito, *Università di Pisa,*
ITALY
G. Scandurra, *Università degli Studi di Messina, ITALY*

13:30 MULTICARRIER POWER AMPLIFIER
-15:40 EVALUATION
Stand M. Balucani, F. Taverna, *University of Rome 'La Sapienza',*
16 *ITALY*
G. Falcione, G. Mancuso, *MARCONI MOBILE SpA, ITALY*

WEDNESDAY SEPTEMBER 15, 2004

IWSSIP POSTER SESSION:

IMAGE PROCESSING AND WATERMARKING

Chair: J. Turán

Location: Poster Hall

13:30 APPLICATION OF VECTOR MEDIAN FILTERS
-15:40 USING CONDITIONAL ORDERING IN VARIOUS
Stand COLOUR SPACES
17 K. Okarma, P. Lech, *Technical University of Szczecin, POLAND*

13:30 RBF NEURAL NETWORKS AND GENETIC
-15:40 ALGORITHMS FOR MEDICAL IMAGES
Stand SEGMENTATION
19 N. Benamrane, A. Fekir, *Vision and Medical Imagery GROUP, ALGERIA*

13:30 IDENTIFYING PARAMETERS OF LOCAL
-15:40 SWITCHING MODELS: A GEOMETRICAL
Stand APPROACH
21 D. W. Pearson, *Jean Monnet University of Saint-Etienne, FRANCE*
J. Ragot, *CRAN-INPL, FRANCE*

13:30 PROCESSING AND VISUALIZATION OF RETINA
-15:40 LASER IMAGES
Stand R. Kolář, L. Kubečka, *Brno University of Technology, CZECH REPUBLIC*
22

13:30 UNIFIED FUZZY BASED MODEL FOR CONTENT
-15:40 BASED TEXTURE RETRIEVAL
Stand S. Wada, Z. Liu, *Tokyo Denki University, JAPAN*
24

Program of this session continues at the next page

- 13:30 MEANINGFUL MULTICHANNEL IMAGE EDGES
-15:40 J. Rocha, A. Mir, *University of the Balearic Islands, SPAIN*
Stand
25
- 13:30 FRAGILE DIGITAL IMAGE WATERMARKING
-15:40 FOR AUTHENTICATION AND RESTORATION
Stand K. Duda, *AGH University of Science and Technology, POLAND*
26
- 13:30 ROTATION, SCALE, AND TRANSLATION
-15:40 RESILIENT DIGITAL WATERMARKING BASED ON
Stand COMPLEX EXPONENTIAL FUNCTION
27 S. Pholsomboon, S.Vongpradhip, *Chulalongkorn University, THAILAND*
- 13:30 EN EFFICIENT WATERMARK EMBEDDING
-15:40 TECHNIQUE
Stand A. A. Abdelwahab, E. M. Saad, N. I. Yassin, *Helwan University, EGYPT*
29
- 13:30 AN IMPROVED FREQUENCY-DOMAIN TECHNIQUE
-15:40 FOR ROBUST IMAGE WATERMARKING
Stand M. Colom, J. L. Lisani, *Universitat de les Illes Balears, SPAIN*
31

WEDNESDAY SEPTEMBER 15, 2004

ICESES ORAL SESSION: PATTERN RECOGNITION

Chair: Cz. Jędrzejek

Location: PLENARY

15:40 OBJECT RECOGNITION USING CELLULAR NEURAL NETWORKS – PHYSICAL IMPLEMENTATION ISSUES

P. Korbel, K. Ślot, *Technical University of Lodz, POLAND.*

16:00 INVARIANT SHAPE OBJECT RECOGNITION USING THE B-SPLINES CONTROL POINTS AND GENETIC ALGORITHMS

P. Phokharatkul, *Mahidol University, THAJLAND,*
S. Foitong, Q. Pingern, *King Mongkut's Institute of Technology Lardkrabang, THAJLAND,*
Ch. Kimpan, *Sri patum University, THAILAND,*

16:20 ON-LINE WRITER RECOGNITION BASED ON TRAJECTORY OF BARYCENTER OF PEN-TIP MOVEMENT

T. Matsuura, P. Thumwarin, K. Izumi, *Tokai University, JAPAN*

16:40 TEXT DETECTION AND RECOGNITION FOR VIDEO INDEXING

A.A. Qazi, *Hamburg, GERMANY,*
I.A. Siddiqi, M.S. Hussain, *InterActive Communications Private Limited, PAKISTAN*

WEDNESDAY SEPTEMBER 15, 2004

ICESES ORAL SESSION: MODULATION AND CODING

Chair: A. Dobrogowski

Location: Room A

- 15:40 DYNAMIC MIXED HUFFMAN CODES
G. Ułacha, *Szczecin University of Technology, POLAND*
R. Stasiński, *Poznań University of Technology, POLAND*
- 16:00 A NOVEL NOISE-SHAPING FEEDBACK CODER
S-H. Yu, *Sun Yat-Sen University, TAIWAN*
- 16:20 BLIND SEPARATION OF DIGITALLY MODULATED SIGNALS
A. Lewandowski, *Wroclaw University of Technology, POLAND*
- 16:40 TRANSMITTING INFORMATION VIA CHAOTIC MODULATION
H.-Ch. Chou, *Tung Nan Institute of Technology, TAIWAN*
- 17:00 AN ANALYSIS OF DISTORTION IN WILSON EXPANSION BASED TMUX
P. Turcza, *AGH University of Science and Technology, POLAND*
- 17:20 DOUBLE FOLDING VITERBI DETECTOR WITH REDUCED COMPLEXITY FOR EPRML SYSTEM APPLICATIONS
J-S. Choi, H-J. Ahn, S-W. Kim, *Korea University, KOREA*

WEDNESDAY SEPTEMBER 13, 2004

**ICES ORAL SESSION: E-LEARNING OF ELECTRONICS
AND TELECOMMUNICATIONS**

Chair: P. Szulakiewicz

Location: Room B

- 15:40 A COURSE IN BASIC DIGITAL ELECTRONICS FOR A
DISTANCE EDUCATIONAL PROGRAMME
B. Oelmann, M. O’Nils, *Mid Sweden University, SWEDEN*
- 16:00 INTERACTIVE DISTANCE LEARNING IN DECODING
ALGORITHMS AND MAC PROTOCOLS
R. Kotrys, P. Remlein, A. Stelter, P. Szulakiewicz,
Poznań University of Technology, POLAND
- 16:20 KNOWLEDGE ASSESSMENT IN INTELLIGENT E-
LEARNING ENVIRONMENTS
P.D. Cristea, R.I. Tuduca, A.R. Tuduca,
University "Politehnica" of Bucharest, ROMANIA
- 16:40 INVOCOM MULTIMEDIA - INTERNET-BASED
VOCATIONAL TRAINING
M. Bartkowiak, Z. Korus, R. Świerczyński,
Poznań University of Technology, POLAND

WEDNESDAY SEPTEMBER 15, 2004

ICSES ORAL SESSION: RADAR SYSTEMS

Chair: W. Bandurski

Location: Room 204

- 15:40 CHAOTIC BEHAVIOR OF CHAOTIC BASED FM SIGNALS AND THEIR USE ON MULTIPATH PROPAGATION ENVIRONMENTS FOR HIGH-RESOLUTION RADAR
E.A. Solis, G. Thomas, *University of Manitoba, CANADA*
B.C. Flores, *University of Texas at El Paso, USA*
- 16:00 DETECTION AND FOCUSING OF BURIED OBJECT SIGNATURES USING GROUND PENETRATING RADAR
G.Thomas, D.Flores, M.C. Phelan,
University of Manitoba, Winnipeg, CANADA
- 16:20 EM FIELD INTENSITY IN ENVIRONMENT OF GROUND PENETRATING RADAR (GPR/RAMAC)
P. Bieńkowski, R. Mydlikowski,
Wroclaw University of Technology, POLAND,
A. Szynekiewicz, *Wroclaw University, POLAND*
- 16:40 LASER RADAR CROSS SECTION IN 850 NM REGION
O. Wilfert, A. Prokeš,
Brno University of Technology, CZECH REPUBLIC
- 17:00 CLUTTER DENOISING IN RADAR SIGNAL BY SHIFT-INVARIANT DISCRETE WAVELET TRANSFORM
Ch. Bhattacharya, *DEAL(DRDO), INDIA*
A. Kar, *Jadavpur University, Kolkata, INDIA*

WEDNESDAY SEPTEMBER 15, 2004

IWSSIP ORAL SESSION: COMPUTER VISION

Chair: A. Kasiński

Location: Room C

- 15:40 HISTOGRAM ANALYSIS AND ITS APPLICATIONS
TO FAST CAMERA STABILIZATION
J. Delon, *ENS Cachan, FRANCE*
A. Desolneux, *Université Paris 5, FRANCE*
J. L. Lisani, A. B. Petro, *Univ. Illes Balears, SPAIN*
- 16:00 A COMPUTER VISION SYSTEM FOR THE
DETECTION OF DANGEROUS FREIGHT
TRANSPORTATION ON THE HIGHWAYS
T. Romih, P. Planinšič, Ž. Čučej, *University of Maribor,
SLOVENIA*
- 16:20 AN EFFECTIVE ALGORITHM FOR SOUND BASED
HANDWRITING AUTHENTICATION
F.F. Li, *Manchester Metropolitan University, UNITED
KINGDOM*
- 16:40 A NEW WORD AND DIACRITIC SEGMENTATION
TECHNIQUE FOR ARABIC HANDWRITING
M. A. Ali, K. B. Jumari, S. A. Samad, *Universiti Kebangsaan
Malaysia, MALAYSIA*
- 17:00 FEATURE POINT TRACKING USING ESTIMATION
OF MULTIPLE-AFFINE PARAMETERS
T. Unobe, N. Hamada, *Keio University, JAPAN*

MONDAY, SEPTEMBER 13, 2004

10:00-10:20	Opening Session <i>PLENARY</i>					
10:20-11:20	J.-R. Ohm "WAVELET VIDEO CODING" <i>PLENARY</i>					
11:20-11:45	Coffee Break					
11:45-12:45	H. Grabinski "THE TROUBLE WITH INTERCONNECTS" <i>PLENARY</i>					
12:45-14:00	Lunch Break					
14:00-15:40	Video Coding# <i>PLENARY</i>	CMOS Circuit Design* A	Digital Filter Design* B	Nonlinear Systems* C	Biomedical Signal Processing# 204	Multimedia Communications# Sigma-Delta Modulators* <i>POSTER</i>
15:40-16:10	Coffee Break					
16:10-18:30	Multimedia Systems# <i>PLENARY</i>	Analogue Integrated Circuits* A	Image Enhancement Reconstruction# B	Telecom. Systems* C	Biomedical Signal Processing* 204	
21:00 Conference and Workshop dinner - POLONEZ Hotel, al. Niepodległości 36						

* - ICSES session

- IWSSIP session

TUESDAY, SEPTEMBER 14, 2004

F. Pereira "MPEG-21 STANDARD"
PLENARY

9:00-10:00					Video Processing#
10:00-10:30	Coffee Break				Architectures for Multim. Systems# POSTER
10:30-12:10/ /12:30	Multimedia Indexing# PLENARY	Symbolic Analysis and Analog Filter Design* A	Digital Signal Processing* B	Audio Processing and Analysis# C	Analog and Digital Converters* 204
12:10-13:30	Lunch Break				
13:30-15:30	Video Feature Extraction# PLENARY	Digital VLSI Circuit Design* A	Still Image Processing# B	Image Data Compression# C	High Frequency Electronics* 204
	12:20 IWSSIP International Program Committee meeting – Lunch room				Advances in Signal Processing*# POSTER
	15:30 Sightseeing tour (buses leave from the conference site)				
	20:00 Signals, Network and Electronic Systems Section of PAN – meeting - Hotel IKAR, ul. Kościuszki 118				

* - ICSES session

- IWSSIP session

WEDNESDAY, SEPTEMBER 15, 2004

J. Ostermann "TALKING FACES"
PLENARY

9:00-10:00	Coffee Break					FPGA Applications* Speech & Audio Processing# POSTER
10:00-10:30	Coffee Break					
10:30-12:10	INTERACTIVE TELEVISION WORKSHOP# I PLENARY	VLSI Circuit Implementation* A	Image Processing* B	Face Detection and Recognition# C	Tolerancing, Testing and Fault Detection* 204	
12:10-13:30	Lunch Break					
13:30-15:10	INTERACTIVE TELEVISION WORKSHOP# II PLENARY	Digital System Design* A	Tools for E-Learning* B	Signal Processing Algorithms# C	Speech Analysis* 204	Integrated Circuit Design Applications* Image Processing Watermarking# POSTER
15:10-15:40	Coffee Break					
15:40-17:40	Pattern Recognition* PLENARY	Modulation and Coding* A	E-Learning in Electronics and Telecommunications* B	Computer Vision# C	Radar Systems* 204	

* - ICSES session

- IWSSIP session

Poznań International Fair

