

# PROGRAMME ELMAR-2006



## 48th International Symposium ELMAR-2006 focused on Multimedia Signal Processing and Communications



07-09 June 2006  
Zadar, CROATIA





## ELMAR-2006 SYMPOSIUM GENERAL INFORMATION

48th International Symposium ELMAR-2006, is organised by:

- *Croatian Society Electronics in Marine - ELMAR, Zadar*
- *Department of Wireless Communications, Faculty of Electrical Engineering and Computing, University of Zagreb*

ELMAR-2006 symposium will be held at hotel "Donat", Borik, Zadar.  
Address: Majstora Radovana 7, 23000 Zadar, Croatia.

**ELMAR-2006 symposium takes place under the GENERAL SPONSORSHIP of:**

- **TANKERSKA PLOVIDBA, ZADAR**



ELMAR-2006 symposium takes place under the technical co-sponsorship of:

- *IEEE Signal Processing Society*
- *IEEE Region 8*
- *IEEE Croatia Section*
- *The European Association for Signal, Speech and Image Processing - EURASIP*
- *Croatian Academy of Engineering - HATZ*
- *Ministry of Science, Education and Sports of the Republic of Croatia*
- *Ministry of Foreign Affairs and European Integration of the Republic of Croatia*
- *Ministry of the Sea, Tourism, Transport and Development of the Republic of Croatia*
- *University of Zagreb*
- *Faculty of Electrical Engineering and Computing in Zagreb*
- *University of Zadar*
- *University of Dubrovnik*

ELMAR-2006 symposium is supported by:

- *T-Mobile Croatia LLC*
- *OiV - Transmitters and Communications*
- *HRT - Croatian Radio and Television*
- *STORM Computers*
- *Croatian Telecommunications Agency*
- *Mobis Electronic*
- *Eutelsat S.A.*
- *Ericsson Nikola Tesla*
- *Micro-Link Zagreb*
- *InfoNET Projekt*
- *KONČAR - Institut za elektrotehniku*
- *AVC - Audio Video Consulting*
- *CROATEL*
- *Zadar Tourist Board*
- *Archaeological Museum Zadar*
- *HTZ - Croatian National Tourist Board*
- *County of Zadar*
- *Town of Zadar*
- *Falkensteiner Borik Zadar Croatia*



---

## ELMAR-2006 SYMPOSIUM COMMITTEES

---

### General Co-Chairs

*Ive Mustać*, Tankerska plovidba, Zadar, Croatia  
*Branka Zovko-Cihlar*, University of Zagreb, Croatia

### Program Chair

*Mislav Grgić*, University of Zagreb, Croatia

---

## ELMAR-2006 SYMPOSIUM INTERNATIONAL PROGRAMME COMMITTEE

---

*Juraj Bartolić*, University of Zagreb, Croatia  
*David Broughton*, Royal Institute of Navigation, United Kingdom  
*Žarko Čučej*, University of Maribor, Slovenia  
*Marek Domański*, Poznań University of Technology, Poland  
*Kálmán Fazekas*, Budapest University of Technology and Economics, Hungary  
*Janusz Filipiak*, COMARCH S.A., Poland  
*Renato Filjar*, Ericsson Nikola Tesla, Croatia  
*Borko Furht*, Florida Atlantic University, USA  
*Jože Furlan*, University of Ljubljana, Slovenia  
*Christophe Garcia*, France Télécom, France  
*Mislav Grgić*, University of Zagreb, Croatia  
*Sonja Grgić*, University of Zagreb, Croatia  
*Bernhard Hofmann-Wellenhofer*, Graz University of Technology, Austria  
*Tomislav Kos*, University of Zagreb, Croatia  
*Andy Kucar*, 4U Communications Research, Canada  
*Boris Kviz*, University of Zagreb, Croatia  
*Rastislav Lukac*, University of Toronto, Canada  
*Gábor Mátay*, Budapest University of Technology and Economics, Hungary  
*Branka Medved Rogina*, Ruđer Bošković Institute, Croatia  
*Borivoj Modlic*, University of Zagreb, Croatia  
*Pavol Podhradský*, Slovak University of Technology in Bratislava, Slovak Republic  
*Božidar Poldrugač*, T-Mobile Croatia LLC, Croatia  
*K. R. Rao*, University of Texas at Arlington, USA  
*Marian S. Stachowicz*, University of Minnesota Duluth, USA  
*Christel Stakkestad*, Concilium Marine, Sweden  
*Rajko Svečko*, University of Maribor, Slovenia  
*Csaba Szabó*, Budapest University of Technology and Economics, Hungary  
*Ján Turán*, Technical University of Košice, Slovak Republic  
*František Vejražka*, Czech Technical University in Prague, Czech Republic  
*Stamatis Voliotis*, Technological Educational Institute of Chalkida, Greece  
*Nick Ward*, International Association of Lighthouse Authorities, United Kingdom  
*Krzysztof Wajda*, AGH University of Science and Technology, Poland  
*Branka Zovko-Cihlar*, University of Zagreb, Croatia

---

**ELMAR-2006 SYMPOSIUM  
INTERNATIONAL REVIEW COMMITTEE**

---

*Boštjan Batagelj*, University of Ljubljana, Slovenia  
*Davor Bonefačić*, University of Zagreb, Croatia  
*Krešimir Delač*, Ericsson Nikola Tesla, Croatia  
*Žarko Čučej*, University of Maribor, Slovenia  
*Kálmán Fazekas*, Budapest University of Technology and Economics, Hungary  
*Christophe Garcia*, France Télécom, France  
*Mislav Grgić*, University of Zagreb, Croatia  
*Sonja Grgić*, University of Zagreb, Croatia  
*Kristian Jambrošić*, University of Zagreb, Croatia  
*Tomislav Kos*, University of Zagreb, Croatia  
*Andy Kucar*, 4U Communications Research Inc., Canada  
*Boris Kviz*, University of Zagreb, Croatia  
*Rastislav Lukac*, University of Toronto, Canada  
*Gábor Mátay*, Budapest University of Technology and Economics, Hungary  
*Borivoj Modlic*, University of Zagreb, Croatia  
*Pavol Podhradský*, Slovak University of Technology in Bratislava, Slovak Republic  
*Gregor Rozinaj*, Slovak University of Technology in Bratislava, Slovak Republic  
*Gerald Schaefer*, Nottingham Trent University, United Kingdom  
*Zvonimir Šipuš*, University of Zagreb, Croatia  
*Christel Stakkestad*, Concilium Marine, Sweden  
*Wiesław Starowicz*, Politechnika Krakowska, Poland  
*Lubomir Sumichrast*, Slovak University of Technology, Slovak Republic  
*Ján Turán*, Technical University of Košice, Slovak Republic  
*Predrag Valožić*, Polytechnics of Zagreb, Croatia  
*Stamatis Voliotis*, Technological Educational Institute of Chalkida, Greece  
*Krzysztof Wajda*, AGH University of Science and Technology, Poland  
*Sonja Zentner Pilinsky*, Polytechnics of Zagreb, Croatia

---

**CROATIAN SOCIETY  
ELECTRONICS IN MARINE - ELMAR**

---

President: *Branka Zovko-Cihlar*

Vice-president: *Ivan Pupovac*

Secretary: *Viljem Jerič*

Honorary members of the ELMAR Society:

*Milan Goja, Vladimir Muljević, Kosta Ugrinović, Božidar Radanović*

Members of the ELMAR Executive Committee:

*Winton Afrić, Pavel Cukrov, Renato Filjar, Mislav Grgić, Sonja Grgić, Viljem Jerič, Jakov Kitarović, Tomislav Kos, Lidija Mandić, Branka Medved Rogina, Ivan Pupovac, Vladimir Roboz, Vesna Roje, Karolj Skala, Ante Tićac, Branka Zovko-Cihlar*

Address: Faculty of Electrical Engineering and Computing  
Croatian Society Electronics in Marine - ELMAR  
Unska 3 / XII, HR-10000 Zagreb, CROATIA

Phone: + 385 1 6129 851

Fax: + 385 1 6129 568

E-mail: [elmar2006@fer.hr](mailto:elmar2006@fer.hr)

URL: <http://www.elmar-zadar.org/>

# ELMAR-2006 PROGRAMME

**Wednesday, 07 June 2006**

09:00	<b>Registration</b>	
<b>HALL A</b>		
09:30 - 10:30	<b>Opening Ceremony, Welcome Speeches, Keynote Speech</b>	
10:30 - 11:00	<b>Welcome Cocktail</b>	
11:00 - 12:30	<b>PLENARY SESSION</b>	
12:30 - 14:00	<b>Lunch Break</b>	
	<b>HALL A</b>	<b>HALL B</b>
	14:00 - 15:30 <b>SESSION:</b> <b>Image and Video Processing - 1</b>	14:00 - 15:30 <b>SESSION:</b> <b>Speech and Audio Processing - 1</b>
	15:30 - 16:00 <b>Coffee Break</b>	
	16:00 - 17:30 <b>SESSION:</b> <b>Image and Video Processing - 2</b>	16:00 - 17:30 <b>SESSION:</b> <b>Speech and Audio Processing - 2</b>
	18:00 - 20:30 <b>GUIDED ZADAR SIGHTSEEING AND VISIT TO ST. MARY'S CHURCH</b> <b>(The Permanent Ecclesiastical Art Exhibition: "The Gold and Silver of Zadar")</b> <u>Meeting Point:</u> Hotel "Donat", Main Entrance, 18:00	
	21:00 <b>ELMAR-2006 SYMPOSIUM BANQUET</b> Hotel "Donat / Puntamika" Restaurant	

# ELMAR-2006 PROGRAMME

## Thursday, 08 June 2006

HALL A	HALL B
10:00 - 11:30 <b>SESSION:</b> Image and Video Processing - 3	10:00 - 11:30 <b>SESSION:</b> Mobile Technologies and Services
12:30 - 21:00 <b>EXCURSION BY SHIP</b> (lunch included) <u>Meeting Point:</u> Hotel "Donat", Main Entrance, 12:30	

## Friday, 09 June 2006

HALL A	HALL B
10:00 - 12:00 <b>SESSION:</b> Image and Video Processing - 4	10:00 - 12:00 <b>SESSION:</b> Radiocommunications
12:00 - 13:00 <b>Lunch Break</b>	
HALL A	HALL B
13:00 - 16:00 <b>SESSION:</b> Multimedia Communications	13:00 - 16:00 <b>SPECIAL SESSION:</b> Optoelectronic Structures & High Bit Rates Transmission over Fiber
16:00 - 16:30 <b>Coffee Break</b>	
HALL A	HALL B
16:30 - 18:30 <b>SESSION:</b> Navigation Systems & Radiocommunications	16:30 - 18:30 <b>SESSION:</b> Multimedia Systems and Technologies





## Wednesday, 07 June 2006

09:00 **Registration**

**HALL A**

**Wednesday, 07 June 2006**

09:30-10:00 **Opening Ceremony, Welcome Speeches**

10:00-10:30 **Keynote Speech**

**Prof.dr.sc. Branka Zovko-Cihlar, University of Zagreb, CROATIA**  
Tesla's Inventions in the Field of Radiocommunications

10:30-11:00 **Welcome Cocktail**

11:00-12:30 **PLENARY SESSION**

Session Chair: **Sonja Grgić**

**Prof. Dr.-Ing. Thomas Sikora, Technische Universität Berlin, GERMANY**  
Squeezing Semantics from Media

**Dr. Mubarak Shah, University of Central Florida, USA**  
Human Action Recognition

12:30-14:00 **Lunch Break**

14:00-15:30 **SESSION: Image and Video Processing - 1**

Session Chair: **Mislav Grgić**

**Rastislav Lukac, Konstantinos N. Plataniotis; CANADA**  
Input-Agnostic vs. Input-Specific Image Secret Sharing

**Rastislav Lukac, Konstantinos N. Plataniotis; CANADA**  
Camera Image Watermark Transfer by Demosaicking

**O. López, M. Martínez-Rach, J. Oliver, M.P. Malumbres; SPAIN**  
A Heuristic Bitrate Control for Non-embedded Wavelet Image Encoders

**Jan Švihlík, Petr Páta; CZECH REPUBLIC**  
PDF Model of Multimedia and Scientific Images in the Wavelet Domain

**Tomislav Lukicic, Sonja Grgic, Mislav Grgic; CROATIA**  
Picture Format Conversion for TV Projection

15:30-16:00 **Coffee Break**

16:00-17:30 **SESSION: Image and Video Processing - 2**

Session Chair: **Rastislav Lukac**

**Božidar Potočnik; SLOVENIA**

Assessment of Region-Based Moment Invariants for Object Recognition

**Božidar Potočnik; SLOVENIA**

A Spatial Filter for Dark Regions Detection

**D. Heric, B. Potočnik; SLOVENIA**

Multiscale Edge Detector

**A. Dziech, A. Ukasha, J. Wassermann; POLAND / AUSTRIA**

A New Method for Contour Extraction and Image Compression in Spectral Domain

**Aleš Procházka, Miroslav Kubíček, Aleš Pavelka; CZECH REPUBLIC**

Multicamera Systems in the Moving Body Recognition

**V. Zeljkovic, D. Pokrajac; USA**

Motion Detection Based Multimedia Supported Intelligent Video Surveillance System

18:00-20:30 **GUIDED ZADAR SIGHTSEEING AND VISIT TO ST. MARY'S CHURCH**  
(The Permanent Ecclesiastical Art Exhibition: "The Gold and Silver of Zadar")  
Meeting Point: Hotel "Donat", Main Entrance, 18:00

21:00 **ELMAR-2006 SYMPOSIUM BANQUET**

Hotel "Donat / Puntamika" Restaurant

14:00-15:30            **SESSION: Speech and Audio Processing - 1**

Session Chair:        **Gregor Rozinaj**

**Corneliu Octavian Dumitru, Inge Gavat; ROMANIA**

A Comparative Study of Feature Extraction Methods Applied to Continuous Speech Recognition in Romanian Language

**W. Pogribny, M. Drechny; POLAND**

Speech Processing with the Usage of Cosine Transform on the Basis of Synthetic DPCM

**Benny Sällberg, Nedelko Grbić, Ingvar Claesson; SWEDEN**

Blind Beamforming Using Parallel Single-channel Speech Enhancers

**Srdjan Stanković, Irena Orović, Nikola Žarić,  
Cornel Ioana; SERBIA AND MONTENEGRO / FRANCE**

An Approach to Digital Watermarking of Speech Signals in the Time-Frequency Domain

**Corneliu Octavian Dumitru, Inge Gavat, Rodica Vieru; ROMANIA**

Speaker Verification using HMM for Romanian Language

**Annamaria Mesaros, Simina Moldovan, Eugen Lupu; ROMANIA**

Band Decomposition of Voice Signals Using Wavelets Defined from Fractional B-spline Functions

15:30-16:00            **Lunch Break**

16:00-17:30            **SESSION: Speech and Audio Processing - 2**

Session Chair:        **Bojan Ivančević**

**Ana Radić, Vjeran Šimunić, Bojan Ivančević; CROATIA**

Noise Influence on Quality of Communication in a Tram

**S. Žonja, N. Livun, K. Jambrošić; CROATIA**

Audio – Visual Interaction: Multimedia Applications

**Martin Turi Nagy, Gregor Rozinaj, Jozef Čepko; SLOVAK REPUBLIC**

Design of an HNM System for Prosodic Modification of Slovak Speech

**Gyorgy Takacs, Atilla Tihanyi, Tamas Bardi,  
Gergo Feldhoffer, Balint Srancsik; HUNGARY**

Database Construction for Speech to Lip-readable Animation Conversion

**J. Kacur; SLOVAK REPUBLIC**

The Concept of Task Specific Speech Database for VAD Systems

**Andrej Páleník, Jozef Čepko, Gregor Rozinaj; SLOVAK REPUBLIC**

Design of Slovak Speech Database for Limited Domain TTS within an IVR System

18:00-20:30 **GUIDED ZADAR SIGHTSEEING AND VISIT TO ST. MARY'S CHURCH**  
(The Permanent Ecclesiastical Art Exhibition: "The Gold and Silver of Zadar")  
Meeting Point: Hotel "Donat", Main Entrance, 18:00

21:00 **ELMAR-2006 SYMPOSIUM BANQUET**  
Hotel "Donat / Puntamika" Restaurant

## Thursday, 08 June 2006

**HALL A**

**Thursday, 08 June 2006**

10:00-11:30      **SESSION: Image and Video Processing - 3**

Session Chair:      **Lidija Mandić**

**Romualdas Baušys, Artūras Kriukovas; LITHUANIA**

Reversible watermarking scheme for image authentication in frequency domain

**Ignacy Pardyka, Mariusz Ziółko; POLAND**

Mosaic Based Compression of Panoramic Image Sequence

**Krzysztof Malczewski, Ryszard Stasinski; POLAND**

Optical Character Recognition of Low Resolution Text Sequences from Hand-Held Device Supported by Super-Resolution

**Igor Vujović, Ivica Kuzmanić; CROATIA**

Wavelet Quasi-Superresolution in Marine Applications

**Horst Eidenberger; AUSTRIA**

Illumination-invariant Face Recognition by Kalman Filtering

12:30-21:00      **EXCURSION BY SHIP** (lunch included)

Meeting Point: Hotel "Donat", Main Entrance, 12:30

10:00-11:30

**SESSION: Mobile Technologies and Services**Session Chair: **Krešimir Delač****Denis Duka; CROATIA**

Connectivity Packet Platform in the GSM/WCDMA Network

**Balázs Leitem, Zoltán Windisch; HUNGARY**

Rating in Next Generation Mobile Networks based on a directed graph

**M. Gadže, D. Nogulić, T. Blajić; CROATIA**

Smart Antenna Systems for Broadband Technologies

**D. Nogulić, M. Gadže, A. Janković; CROATIA**

Multicarrier Modulation in Advanced Wireless Communication Systems

**Ervin Zentner, Sonja Zentner Pilinsky; CROATIA**

Methods to Increase the Number of Mobile Users in a Wireless Network

**Tomislav Kos, Mislav Grgic, Gordan Sisul; CROATIA**

Mobile User Positioning in GSM/UMTS Cellular Networks

**N. Belančić, E. Zentner; CROATIA**

Complex antenna systems and their implementation in the mobile communications radio access network

**Winton Afrić, Natalia Matošić, Damir Vakante; CROATIA**

WiMAX on 3.5 GHz Cell Size Calculation

12:30-21:00

**EXCURSION BY SHIP** (lunch included)Meeting Point: Hotel "Donat", Main Entrance, 12:30

## Friday, 09 June 2006

**HALL A**

**Friday, 09 June 2006**

10:00-12:00      **SESSION: Image and Video Processing - 4**

Session Chair:      **Krešimir Delač**

**A. Petrovski, T. Kartalov, Z. Ivanovski, Lj. Panovski; MACEDONIA**

Blind Measurement and Reduction of Blocking Artifacts

**Matjaž Divjak, Damjan Zazula; SLOVENIA**

Disparity Estimation based on Blind Decomposition of Images by Convolutional Kernel Compensation Technique

**Ehsan Nezhadarya, Mohammad B. Shamsollahi; IRAN**

Image Contrast Enhancement by Contourlet Transform

**H. Rabbani, M. Vafadoost, I. Selesnick; IRAN / USA**

Wavelet Based Image Denoising with A Mixture of Gaussian Distributions with Local Parameters

**Tomas Fryza; CZECH REPUBLIC**

Improving Quality of Video Signals Encoded by 3D DCT Transform

**Ivan Vilović; CROATIA**

An Experience in Image Compression Using Neural Networks

**Christos Theoharatos, Nikolaos A. Laskaris,  
George Economou, Spiros Fotopoulos; GREECE**

Efficient Visual Information Retrieval using Orthogonal MSTs

**Krešimir Nenadić, Igor Novak, Josip Job, Franjo Jović, Željko Jagnjić; CROATIA**

A Possibility of Applying Differential Digital Holography in Manufacturing Process

12:00-13:00      **Lunch Break**

13:00-16:00      **SESSION: Multimedia Communications**

Session Chair:      **Mislav Grgić**

**Mihail Nicolaidis, Tihomir Divjak; FRANCE / SERBIA AND MONTENEGRO**

Satellite Communications in Marine - EUTELSAT Approach

**Jasmina Baraković, Himzo Bajrić, Amir Husić; CROATIA**

Multimedia Traffic Analysis of MPLS and non-MPLS Network

**Przemysław Sypka, Mariusz Ziółko, Bartosz Ziółko; POLAND**

Lossy Compression Approach to Transmultiplexed Images

**Miroslav Končar, Grga Mrkonjić, Stanko Tonković; CROATIA**

Multimedia Content Management with HL7v3 Messages

**Martin Prangl, Christian Timmerer, Hermann Hellwagner; AUSTRIA**  
Real-time DVB-based MPEG-21 Digital Item Adaptation for live Universal Multimedia Access

**N. Ramzan, E. Izquierdo; UNITED KINGDOM**  
Double-Binary Turbo Code for Transmission of Scalable Video Bitstream

**P. Trúchly, M. Urbanovič; SLOVAK REPUBLIC**  
MPLS Throughput over GEO Satellites

**Sasa Loncaric, Sonja Grgic, Branka Zovko-Cihlar; CROATIA**  
Minimizing Power Consumption of the DVB-H Receiver

16:00-16:30           **Coffee Break**

16:30-18:30           **SESSION: Navigation Systems & Radiocommunications**

Session Chair:       **Tomislav Kos**

**Teodor Lucian Grigorie, Dragos George Sandu, Ioan Aron; ROMANIA**  
Navigation in non-inertial terrestrial frames using the attitude matrices

**Josef Špaček, Pavel Puričér; CZECH REPUBLIC**  
Front-end Module for GNSS Software Receiver

**Renato Filjar, Tomislav Kos, Ivan Markežic; CROATIA**  
GPS Ionospheric Error Correction Models

**Kanella Petrakou, Ethon - Odysseus Narlis, Stamatis Voliotis; GREECE**  
Algorithmic Air Data Computer Model for General Aviation Light Aircraft

**Kojiro Hata, Kazuhiko Hasegawa, Kazuhisa Niwa, Hiroyuki Fukuda; JAPAN**  
AIS Simulator and ITS Applications

**Davor Bonefačić, Julijana Jančula; CROATIA**  
Laboratory Model of a Monopulse Radar Tracking System

**Vladimir Tudić; CROATIA**  
Uncertainty evaluation of slope coefficient of high precision displacement sensor

**Vladimir Tudić; CROATIA**  
Displacement sensor axis misalignment error

**Nenad Galić, Igor Vujović, Ivica Kuzmanić; CROATIA**  
Thin Film Gas Sensor Modeling and Simulation

**Ivica Kuzmanić, Zlatan Kulenović, Igor Vujović; CROATIA**  
Nanotubes in NEMS – Impact to the Marine Technology



10:00-12:00

**SESSION: Radiocommunications**Session Chair: **Gordan Šišul****Shkelzen Cakaj, Krešimir Malarić; KOSOVO / CROATIA**

Rain Attenuation at Low Earth Orbiting Satellite Ground Station

**Wlodzimierz Pogribny, Ihor Rozhankivsky, Tadeusz Leszczynski; POLAND**

Short Noisy Signal Analysis on the Basis of Sign DM

**Amir Saemi, Vahid Meghdadi, Jean-Pierre Cances,****M. Reza Zahabi, Jean-Michel Dumas; FRANCE**

ML MIMO-OFDM Time Synchronization/Channel Estimation for Unknown Frequency Selective Fading Channels

**Stanislav Šafarić, Krešimir Malarić; CROATIA**

ZigBee wireless standard

**Ana Katalinić, Robert Nagy, Radovan Zentner; CROATIA**

Benefits of MIMO Systems in Practice: Increased Capacity, Reliability and Spectrum Efficiency

**Igor Bauer, Gordan Sisul, Borivoj Modlic; CROATIA**

Modeling of GMSK Communication Systems for Educational Purposes

**M. Hadžialić, N. Behlilović, A. Sarajlić; BOSNIA AND HERZEGOVINA**

An Analytical Approach to Error Evaluation in Gamma Shadowed Nakagami-m Fading Channel for Different Path Loss Models

**Karl Benkič, Jernej Otič, Marko Malajner, Peter Planinšič; SLOVENIA**

Teaching "communications in automation" through practical accession with independent student projects

12:00-13:00

**Lunch Break**

13:00-16:00

**SPECIAL SESSION:****Optoelectronic Structures & High Bit Rates Transmission over Fiber**Session Chair: **Sonja Zenter Pilinsky, Zvonimir Šipuš****P. Valozić, M. Krznarić; CROATIA**

Fiber to the Home - The Tipping Point

**Vasilios Pasiias, Dimitrios A. Karras, Rallis C.****Papademetriou; UNITED KINGDOM / GREECE**

A Framework for Traffic Engineering and Routing in Survivable Multi-service High Bit Rates Optical Networks

**Ľubomír Šumichrast; SLOVAK REPUBLIC**

Numerical Dispersion in the "Complex-Envelope" FDTD Methods and the Sampling Theorem

**Leon Pavlovič, Matjaž Vidmar, Sašo Tomažič; SLOVENIA**

2.5 Gbit/s PRBS Generator and Checker

**Krešo Žmak, Marko Bosiljevac, Petar Bašić, Zvonimir Šipuš; CROATIA / AUSTRIA**

A New Remote Fiber Test System for Optical Networks

**Ida Srdić, Branka Zovko-Cihlar; CROATIA**

Optical code division multiple access methods BER measurement in real time environment

**Irena Jurdana, Sonja Zentner Pilinsky, Boštjan Batagelj; CROATIA / SLOVENIA**

PMD Measurements in Telecom Networks

**Boštjan Batagelj, Patrik Ritoša, Tomaž Korošec; SLOVENIA**

Measurement of PMD with a Fixed Analyzer Measurement Technique

**Boštjan Batagelj, Patrik Ritoša, Tomaž Korošec,**

**Sonja Zentner Pilinsky; SLOVENIA / CROATIA**

PMD Compensators

16:00-16:30

**Coffee Break**

16:30-18:30

**SESSION: Multimedia Systems and Technologies**

Session Chair: **Pavol Podhradsky**

**Vladimir Ergović, Stanko Tonković; CROATIA**

SIP – HL7 integration evaluation

**Michael Zufferey, Harald Kosch; AUSTRIA**

Semantic Adaptation of Multimedia Content

**Martin Koukal, Robert Bestak; CZECH REPUBLIC**

Architecture of IP Multimedia Subsystem

**Theodore Zahariadis, Kanellina Petrakou, Stamatis Voliotis; GREECE**

Enabling QoS in Visual Sensor Networks

**Eugen Mikóczy, Pavol Podhradský; SLOVAK REPUBLIC**

Next Generation Network Laboratory Environment Used for Education and Research

**Mesud Hadžialić, Amra Hajdarević, Elma Filipović; BOSNIA AND HERZEGOVINA**

Estimation of Value Added Services in Bosnia and Herzegovina

**A. Begović, N. Behlilović, A. Sarajlić; BOSNIA AND HERZEGOVINA**

Analysis of Effect of Some Parameters of Symmetrical-Copper-Twisted-Pair on Quality of ADSL Service



