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TECHNICAL PROGRAM CHAIRS MESSAGE

Foreword

The 12th International Conference on Software, Telecommunications and Computer Networks SoftCOM 2004 was held from 10 to 13 October 2004 in the pleasant ambience of the cruising ship "Marko Polo" on the attractive route Dubrovnik-Split-Venice. It was organized by the University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture under the auspices of the Central State Administrative Office for e-Croatia of the Government of the Republic of Croatia, the Ministry of Science, Education and Sports, and the Ministry of the Sea, Tourism, Transport and Development with the principal patron T - Croatian Telecom. The Conference was technically co-sponsored by the IEEE Communications Society (ComSoc) of Communication Software and Technical Committee of Multimedia Systems.

Researchers and experts from industry, research institutes and universities from more than 40 countries all around the world have submitted in total 203 papers for presentation at SoftCOM'04. Submitted papers have been reviewed by more than 100 scientists from universities, institutes and companies all over the world. All accepted papers have been carefully selected based on their contribution, relevance, conceptual clearness and overall quality. Nearly 60% of submitted papers have been recommended for presentation within the technical program.

The conference program has featured a symposium dedicated to the most actual topics in the area of mobile and wireless communications. Two special sessions and seventeen general conference sessions, a poster session and two professional workshops: first dedicated to the wide spectra of themes from the area of ICT, and the second dedicated to signals and systems in human motion, have been held too. In addition five half day tutorials have been held by worldwide recognized experts.

In conjunction with the SoftCOM'04 conference a Business Forum has been organized featuring invited talks, round tables, presentations with participation of managers, executives, experts, government and institutions representatives who discussed and exchanged opinions and experiences on a number of hot topics in contemporary and future ICT industry and market including business, technological and social aspects. In addition prototype demonstrations as well as exhibits were held in the area of the car deck of the ship.

On behalf of the Program committee we would like to thank and credit the authors for their excellent contributions. Particular thanks to the reviewers for their great job as well as to the IEEE Communications Society (COMSOC) Technical Committee of Communication Software for the support. The fruitful collaboration with the universities from Ancona, Lecce, Bari, Budapest, Zagreb, and London has contributed to the quality of the Program significantly.

We believe that we share the feelings of SoftCOM'04 participants when expressing the satisfaction with the success of the Conference. We also hope that ideas from papers published in these Proceedings will find their way to researchers all around the world.

Program Committee Co-chairs

Nikola Rožic, Dinko Begušic

INVITED SPEAKERS

SoftCOM 2004, October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)



Miroslav Kovacic, *Central State Administrative Office for e-Croatia of the Government of the Republic of Croatia*

e-CROATIA IN e-EUROPE BEYOND 2005



Ivica Mudrinic, *President of the Management Board and Chief Executive Officer of T-HT (T-Croatian Telecom)*



Tonci Tadic, *Ruder Boškovic Institute, The member of the Assembly of the International Parliamentarians' Association for Information Technology (IPAIT), CROATIA*

CROATIAN REPORT AT THE 2ND IPAIT CONFERENCE



Roberto Saracco, *Telecom Italia, ITALIA*

TECHNOLOGY EVOLUTION IN ICT: BIZ CHALLENGES AND OPPORTUNITIES



Branko Soucek, *IRIS, Italy*

CONSCIOUSNESS AND SOFTWARE

TECHNICAL PROGRAM COMMITTEE

Nikola Rozic, University of Split, Croatia,
rozic@fesb.hr (Co - Chair)

Dinko Begusic, University of Split, Croatia,
begusic@fesb.hr (Co - Chair)

Sergio Benedetto, Politecnico di Torino, Italy

Tony Bogovic, Telecordia Technologies, USA

Antun Caric, Ericsson - Nikola Tesla, Croatia

Mario De Blasi, University of Lecce, Italy

Petre Dini, Cisco Systems, USA

Alex Gelman, Panasonic Research, USA

Roch Glitho, Ericsson Research, Canada

Francis Grenez, University of Bruxelles, Belgium

Drissa Houatra, France Telecom R&D, France

Gorazd Kandus, Jozef Stefan Institute, Slovenia

Yumin Lee, Chinese Inst of Elec. Eng, China

Pascal Lorenz, Univ. de Haute Alsace, France

Ignac Lovrek, University of Zagreb, Croatia

Gottfried Luderer, Arizona State University, USA

Andrej Ljolje, AT&T, USA

Hiroshi Masuyama, Tottori University, Japan

Dean Marusic, Ericsson - Nikola Tesla, Croatia

Ivan Mijacika, T-Croatian Telekom, Croatia

Miljenko Mikuc, University of Zagreb, Croatia

Naohisa Ohta, Sony Corporation, Japan

Stan Moyer, Telcordia, USA

Algirdas Pakstas, London Metropolitan University, UK

Nikola Pavesic, University of Ljubljana, Slovenia

Dragan Poljak, University of Split, Croatia

Vesna Roje, University of Split, Croatia

Branko Soucek, IRIS, Italy

Krzysztof Wesolowski, University of Poznan, Poland

Heather Yu, Telecordia Technologies, USA

FACULTY OF ELECTRICAL ENGINEERING, MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE - FESB SPLIT

Under the auspices of:

CENTRAL STATE ADMINISTRATIVE OFFICE FOR E-CROATIA OF THE GOVERNMENT OF THE REPUBLIC OF CROATIA

Sponsored by:

IEEE COMMUNICATIONS SOCIETY (COMSOC)

MINISTRY OF SCIENCE, EDUCATION AND SPORTS REPUBLIC OF CROATIA

MINISTRY OF THE SEA, TOURISM, TRANSPORT AND DEVELOPMENT REPUBLIC OF CROATIA

UNIVERSITY OF SPLIT

COMMUNICATIONS AND INFORMATION SOCIETY (CCIS)

IEEE CONTACT

A. Pakstas, University of North London, UK
(a.pakstas@ieee.org)

G.W.R. Luderer, Arizona State Univ., USA (Vice Chair)
(luderer@asu.edu)

SoftCOM04 General Secretary
Hrvoje Dujmic, University of Split, softcom@fesb.hr

<http://www.fesb.hr/SoftCOM>

TUTORIALS

SoftCOM 2004, October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

SPLIT - DUBROVNIK, Sunday, October 10, 15:15-18:30, (BRAC)

T1 - QOS IN THE NEXT GENERATION NETWORKS AND WIRELESS NETWORKS

Pascal Lorenz, *Universite de Haute Alsace, FRANCE*

Abstract: Emerging Internet Quality of Service (QoS) mechanisms are expected to enable wide spread use of real time services such as VoIP and videoconferencing. The "best effort" Internet delivery cannot be used for the new multimedia applications. New technologies and new standards are necessary to offer Quality of Service (QoS) for these multimedia applications. Therefore new communication architectures integrate mechanisms allowing guaranteed QoS services as well as high rate communications. The service level agreement with a mobile Internet user is hard to satisfy, since there may not be enough resources available in some parts of the network the mobile user is moving into. The emerging Internet QoS architectures, differentiated services and integrated services, do not consider user mobility. QoS mechanisms enforce a differentiated sharing of bandwidth among services and users. Thus, there must be mechanisms available to identify traffic flows with different QoS parameters, and to make it possible to charge the users based on requested quality. The integration of fixed and mobile wireless access into IP networks presents a cost effective and efficient way to provide seamless end-to-end connectivity and ubiquitous access in a market where the demand for mobile Internet services has grown rapidly and predicted to generate billions of dollars in revenue.

This tutorial covers to the issues of QoS provisioning in heterogeneous networks and Internet access over future wireless networks as well as ATM, MPLS, DiffServ, IntServ frameworks. It discusses the characteristics of the Internet, mobility and QoS provisioning in wireless and mobile IP networks. This tutorial also covers routing, security, baseline architecture of the inter-networking protocols and end to end traffic management issues.



Biography: Pascal Lorenz [SM '00] (lorenz@ieee.org) received a PhD degree from the University of Nancy, France. Between 1990 and 1995 he was a research engineer at WorldFIP Europe and at Alcatel-Alsthom. He is a professor at the University of Haute-Alsace and responsible of the Network and Telecommunication Research Group. His research interests include QoS, wireless networks and high-speed networks. He was the Program and Organizing Chair of the IEEE [ICATM'98](#), [ICATM'99](#), [ECUMN'00](#), [ICN'01](#), [ECUMN'02](#) and [ICT'03](#), [ICN'04](#) conferences and co-program chair of [ICC'04](#). Since 2000, he is a Technical Editor of the IEEE Communications Magazine Editorial Board. He is the secretary of the IEEE ComSoc Communications Systems Integration and Modelling Technical Committee. He is a member of many international program committees and he has served as a guest editor for a number of journals including *Telecommunications Systems*, *IEEE Communications Magazine* and *LNCS*. He has organized and chaired several technical sessions and gave tutorials at major international conferences. He is the author of 3 books and 95 international publications in journals and conferences.

SPLIT - DUBROVNIK, Sunday, October 10, 15:15-18:30, (HVAR)

T2 - THE COMPUTER AND THE BRAIN

Gottfried Luderer, *Arizona State University, USA*

Abstract: We present a collection of thoughts on the potential impact of brain research on the future evolution of computers. There could very well be a breakthrough ahead similar to the discovery of DNA with comparable impact on technology and society. We look at some recent results and efforts in brain research from the viewpoint of computer science. This is a highly speculative undertaking and not a thorough review of existing research. We are starting with a bottom-up approach, initially looking at the mechanisms used by single neurons to process and communicate signals. Moving up the scale, we look at the nature of processes running in the brain. At the top level, we are interested in the problem of representing consciousness. Some of the questions are: How would a circuit to model neurons look? Are there new programming paradigms to mimic brain activity in computers? How could one deal in computers with the amount of connectivity present in the brain? What is the nature of intelligence? What role do emotions play in mental processes? How does the brain deal with the differences between data, information, and meaning – the so-called qualia problem? What human features can be represented

in a robot? What is consciousness, and could it be represented in circuitry? What are some expert predictions or speculations about future directions the computer technology might take? We conclude with some philosophical considerations like the mind/body problem culminating in the age-old question of the nature of the human soul.



Biography: Dr. Gottfried W. R. Luderer was appointed Professor, ISS Chair of Telecommunication, at Arizona State University in the Fall of 1990. His current research program in networking includes work in the areas of control of ISDN/Broadband ISDN networks, mobile communication networks, and multimedia communication, which ranges from call processing for intelligent network services to network management. Research emphasis is on advanced software technologies for development of telecommunication networks, as used in switches, for signaling and in network management, with a focus on object and component technology and formal definition techniques. From 1965 to 1989, Dr. Luderer was with AT&T Bell Labs, at last directing research on next generation switch architectures, based on fast packet switching technology on the hardware side and object-oriented design technology on the software side, resulting in some of the earliest demonstration networks for multimedia communication. Dr. Luderer holds Diplomingenieur (M.S) and Dr.-Ing. (Ph.D) degrees in Electrical Engineering from the Technical University of Braunschweig, Germany. He holds two patents. While at Bell Labs, he taught at Stevens Institute of Technology in Hoboken, NJ, and at Princeton University. He is member of ACM, IEEE, IEEE Computer and Communication Societies.

SPLIT - DUBROVNIK, Sunday, October 10, 15:15-18:30, (KORCULA)

T3 - ADVANCED WIRELESS: WIFI AND BEYOND

Jim Mollenauer, Technical Strategy Associates, USA

Abstract: This tutorial is intended to provide a comparison of current technologies and a description of emerging standards which will be deployed over the next several years. Initially we will look at current technologies like second- and third-generation mobile phones and WiFi, with a glance back at the ancestry of these facilities. In addition, larger-scale (metropolitan) networks and home networks, including Bluetooth, will be discussed. Advanced techniques such as OFDMA modulation and space-time processing will also be touched on. New standards are likely to represent the next generation of wireless networks. These will include the IEEE 802.16-2004 standard for fixed metropolitan wireless, a revision newly approved by the IEEE Standards Board. The impact of the WiMAX Forum in support of this technology will be examined. New technologies aimed at in-home usage will be covered; these include ultra-wideband at the high end of the speed spectrum and Zigbee at the low end. We will go on to mobility issues and to technologies that have not quite emerged yet, but which should have considerable impact in the future. These topics include the evolution of the mobile-phone network to a mixed-use network with relatively high data speeds, and to data-oriented networks. The latter include IEEE 802.16e, the mobile version of 802.16, and to the rival 802.20 effort within the IEEE 802 LAN/MAN framework. Finally there will be forecasts of how the wireless field will play out over the next few years.



Biography: Jim Mollenauer received his PhD from the University of California at Berkeley. He spent 17 years at Bell Laboratories in physics research and communication system development and has held positions in Motorola Codex and Prime Computer. He architected one of the earliest Ethernet switches at Artel Communications in 1990. As a consultant, his design projects have included terrestrial and satellite wireless systems. Jim has broad experience in standards, having chaired the IEEE 802.6 Metropolitan Area Networks committee for twelve years and participated in several IEEE and ETSI standardization committees. He was a founding member of the IEEE 802.16 committee for broadband wireless networks and the 802.20 group for broadband mobile networks.

T4 - CHALLENGES IN HIGH PERFORMANCE NETWORK MONITORING

Fulvio Riso, *Politecnico di Torino, ITALY*

Abstract: One of the most critical issues in keeping a network under control is capturing and analyzing its traffic. The complexity of these tasks is increasing as networks become faster and faster. Some vendors (notably, Endace) offer network interfaces specifically designed for supporting packet capture at high data rates (e.g., 10 Gbps). While ad-hoc solutions based on advanced hardware can mitigate the problems related to the packet capture, no straightforward solution exists to reduce the criticalities of the following steps, such as traffic processing and creating historical traces. This tutorial first introduces the basic concepts of network monitoring. Then, it will describe the current techniques for network monitoring (packet-based, flow-based, SNMP based), with their associated advantages and drawbacks. Finally, it will address some specific problems for high-speed network monitoring, namely for networks at 1Gbps and beyond. The tutorial will include several examples drawn from the Author's experience in implementing WinPcap, the de-facto standard library for network analysis tools under the Win32 platform, and, at the present day, the most performing system for packet capture.



Biography: Fulvio Riso (IEEE member) is assistant researcher at the Department of Control and Computer Engineering of Politecnico di Torino. He got his Ph.D. in computer and system engineering from Politecnico di Torino in 2000. Current research activity focuses on network analysis and network monitoring. His international experiences include a one-year period at University College London (UK) and one at Cisco Systems, San Jose (CA), USA as a Visiting Faculty. He started and it is one of the maintainers of the WinPcap (<http://winpcap.polito.it>) and the Analyzer (<http://analyzer.polito.it>) projects. The former is the de-facto standard library for network analysis tools under the Win32 platform, while the latter is one of the most appreciated tools for packet sniffing and network monitoring.

T5 - TOOLS FOR TEACHING NETWORK PLANNING

Algirdas Pakšas, *London Metropolitan University, UK*

Abstract: Tutorial is providing overview of using tools for teaching Network Planning. This is done using module IM213 "Network Planning and Management" (Dept. Computing, Communications Technology and Mathematics, London Metropolitan University) as example. Tutorial consists of four parts. The first part of the Tutorial is devoted to the general overview of the IM213 set up. The second part is presenting introduction to network design problem with particular attention paid to Performability and Dependability issues. The third part looks at the use of WAN design tool Delite which is demonstrated using actual Laboratory assignment. Part four is devoted to presenting Network Simulator ns-2 and Network Animator nam.



Biography: Prof. Algirdas Pakšas received his M.Sc. in Radiophysics and Electronics in 1980 from the Irkutsk State University, Ph.D. in Systems Programming in 1987 from the Institute of Control Sciences. Currently he is with the London Metropolitan University, Department of Computing, Communications Technology and Mathematics where he is doing research the area of Communications Software Engineering and is teaching courses "Network Planning and Management" and "Computer Systems and Networks". He is active in the following IEEE Communications Society Technical Committees: TC on Communications Software and TC on Multimedia Communications. He has published 3 research monographs (2 authored and 1 edited) and more than 140 other publications. He is a senior member of the IEEE and a member of the ACM and the New York Academy of Sciences. He is currently a member of the Editorial Boards of the "IEEE Communications Magazine", "Cybernetics and Systems Analysis", "Journal of Information and Organizational Sciences" and "CompSIS".

TECHNICAL PROGRAM: SYMPOSIUM

SoftCOM 2004, October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

SYMPOSIUM ON FUTURE WIRELESS SYSTEMS

VENICE, Wednesday, October 13

Wednesday, October 13, 09:00-10:30, (KORCULA)

SYM1 – FUTURE WIRELESS SYSTEMS I

Symposium organizer: Mario De Blasi, University of Lecce, Italy
Chair: Jim Mollenauer, Technical Strategy Associates, USA

Mobile Privacy and Identity Management

Chun-Lung Huang, Chi-Chun Lo, National Chiao Tung University, Taiwan; Ching-Long Tseng, Institute for Information Industry, Taiwan

A Methodology for Testing IPsec-based Systems

Uljana Boiko, Antonietta Lo Duca, University of Lugano, Switzerland; Alberto Ferrante, Vincenzo Piuri, University of Milan, Italy

Seamless Soft Handover In DVB-H Networks

Xiaodong Yang, Y.H. Song, T.J. Owens, J. Cosmas, T. Itagaki, Brunel University, United Kingdom

Efficient Space Utilization for Text Display on Small Screen Web Browsers

Huda Md. Nurul, Eiej Kamioka, Shigeki Yamada, National Institute of Informatics, Japan; Gazi Mushfiqur Rahman, University of Dhaka, Bangladesh

Extensions of Mobile IP for Real-Time Applications

Franco Tommasi, Simone Molendini, Andrea Tricco, Marco De Luca, University of Lecce, Italy

Wednesday, October 13, 11:00-12:30, (KORCULA)

SYM2 – FUTURE WIRELESS SYSTEMS II

Chair: Mario De Blasi, University of Lecce, Italy

Convergence in Bluetooth and 802.11 Networks

Satyajit Chakrabarti, Son Vuong, University of British Columbia, Canada; Anirban Sinha, Institute of Engineering and Management, India; Rajashree Paul, Simon Fraser University, Canada

Inter-vehicle Communication System Using Hybrid Spread Spectrum Techniques

Su Yang, Hazem Refai, University of Oklahoma, USA

Browsing Personal Digital Photograph Collections with Spatial and Temporal Based Ontology and MPEG-7 Dozen Dimensional Digital Content Architecture

Pei-Jeng Kuo, Terumasa Aoki, Hiroshi Yasuda, The University of Tokyo, Japan

Connectivity State Change Notification in Ad hoc Networks

Djamal-Eddine Meddour, Yvon Gourhant, France Telecom R&D, France

All-IP Architecture for HAP Networks: Mobility Issues

Roman Novak, Jozef Stefan Institute, Slovenia

Wednesday, October 13, 15:15-16:45, (KORCULA)

SYM3 – FUTURE WIRELESS SYSTEMS III

Chair: Mario De Blasi, University of Lecce, Italy

Dynamic Channel Mapping Strategies in Adaptive MIMO systems

Tomaz Javornik, Gorazd Kandus, Sreco Plevel, Jozef Stefan Institute, Slovenia

A Mobile Agent-Based Architecture for Mobile Systems Supporting Distributed Software Project Management

Gilda Pour, Fan Chieh Yao, San Jose State University, USA; Cheuk Chun Yu, Siemens Corporate Technologies, USA

Power Constrained Active Suppression of Electromagnetic Fields Using MIMO Antenna System

Tommy Hult, Abbas Mohammed, Blekinge Institute of Technology, Sweden

An agent based approach for modelling GSM location update function

Abdessadek Aaroud, S.E. Labhalla, B. Bounabat, University, Cadi Ayyad, Morocco

TECHNICAL PROGRAM: SPECIAL SESSIONS

SoftCOM 2004, October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

DUBROVNIK-SPLIT, Monday, October 11

Monday, October 11, 09:00-10:30, (KORCULA)

SS1 – MOBILE AND PERSONAL COMMUNICATIONS SAFETY

Session organizer: Dragan Poljak, University of Split, Croatia
Chair: Poljak Dragan, University of Split, Croatia

An M-Commerce Platform on J2ME with New Features of MIDP2.0

Kubilay Akgul, Haluk Bingol, Bogazici University, Turkey

Energy in Transient Electromagnetic Field of Wire Array Antennas

Choy Tham, Tunku Abdul Rahman University, Malaysia; Dragan Poljak, University of Split, Croatia; Andy McCowen, Malcom S. Towers, University of Wales, United Kingdom

Installation Uncertainty of a Base Station Antenna Radiation Pattern

Antonio Sarolic, Borivoj Modlic, University of Zagreb, Croatia, Dragan Poljak, University of Split, Croatia

Multiconductor Transmission Lines Modeling Using the Finite Element Technique

Rino Lucic, Mate Kurtovic, Slavko Vujevic, University of Split, Croatia

Time Domain Analysis of Radiation from a Cellular Phone Antenna

Dragan Poljak, University of Split, Croatia

Trust and Context: Two Complementary Concepts for Creating Spontaneous Collaborative Networks and Intelligent Applications

Ivan Martinovic, Manuel Goertz, Ralf Ackermann, Andreas Mauthe, Ralf Steinmetz, TU Darmstadt, Germany

Comparison of Time-Domain Thin-Wire Array Current Distribution Calculation Using GB-BIEM and NEC

Sinisa Antonijevic, Josko Radic, Vicko Doric, Dragan Poljak, Vesna Roje, University of Split

Indoor propagation prediction software and WLAN measurements at 2.4 GHz

Damir Zrno, Dina Simunic, Maja Roboz, University of Zagreb, Croatia

VENICE, Wednesday, October 13

Wednesday, October 13, 11:00-12:30, (BRAC)

SS2 – GENOMIC SIGNAL PROCESSING

Session organizer: Roberto Garello, Politecnico di Torino, Italy
Chair: Roberto Garello, Politecnico di Torino, Italy

An Overview of the Most Recent cDNA Microarray Image Processing Issues

Franco Chiaraluce, Ennio Gambi, Susanna Spinsante, Universita Politecnica dell Marche, Italy

Frequency and Time-Frequency Analysis of DNA Sequences

Lorenzo Galleani, Roberto Garello, Monica Visintin, Politecnico di Torino, Italy; Francesco Mininni, Scuola di Applicazione ed Istituto di Studi Militari dell'Esercito, Italy

Sequence Analysis of DNA Based on Amino Acid Labeling

Michele Crociani, Marco Chiani, University of Bologna, Italy

Scientific Progress for Molecular Biology and Genetic Engineering: Issues for Possible Interscience Cooperation

Stefania Zovato, G. Cartei, S. Binato, D. Pastorelli, F. Zustovich, F. Salmaso, R. Cappellari, Istituto Oncologico Veneto, Italy.

TECHNICAL PROGRAM: GENERAL CONFERENCE

SoftCOM 2004 October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

DUBROVNIK-SPLIT, Monday, October 11

Monday, October 11, 09:00-10:30, (BRAC)

S1 – COMMUNICATIONS SOFTWARE I

Chair: Serge Midonnet, University of Marne la Vallee, France

A New Adaptive-Rate Architecture for VoIP: Definition and Performance Evaluation

Francesco Beritelli, Salvatore Casale, Giovanni Schembra, Salvatore Serrano, University of Catania, Italy; Giuseppe Ruggeri, Università Mediterranea di Reggio Calabria, Italy

Analysis of protocol design issues for open standards based programmable routers and switches

Hormuzd Khosravi, Intel Corporation, USA, Shashidhar Lakkavalli, Portland State University, USA

Aperiodic Invocations Admission in Real-Time CORBA

Serge Midonnet, University of Marne la Vallee, France

Multi-channel MAC Protocol: Performance Mathematical Analysis and Comparison

Peristera Baziana, Ioannis Pountourakis, National Technical University of Athens, Greece

Monday, October 11, 11:00-12:30, (BRAC)

S2 – COMMUNICATIONS SOFTWARE II

Chair: Jari Porras, Lappeenranta University of Technology, Finland

Privacy conscious architecture for personal information transfer from personal trusted device to HTTP based service

Pekka Jäppinen, Mika Yrjölä, Jari Porras, Lappeenranta University of Technology, Finland

Session Initiation Protocol Application Layer Gateway

Jurica Mikulic, Ivan Andrić, Viktor Matic, University of Zagreb, Croatia

SMS School Notification Service as booster for e-school

Nikola Rendulic, Ozren Labor, NetworkStar Kate, Croatia; Zeljka Car, University of Zagreb, Croatia

The Two-Step Overlay Network Simulation Approach

Hannes Birck, Oliver Heckmann, Andreas Mauthe, Technical University of Darmstadt, Germany

On-line Recording of the Microwave Signal Data – A Short Study

Radha Krishna Rao Geelapaturu SV, Multimedia University, Malaysia, Purnachandra Rao Mallela, Andhra University, India

Multicriteria Decision-Making in Selecting the Mobile Telephony Operator

Zvonko Kavran, Dragan Perakovic, University of Zagreb, Croatia; Pero Cosic, T - Croatian Telecom, Croatia

Monday, October 11, 15:15-16:45, (BRAC)

S3 – SIGNAL PROCESSING AND CODING

Chair: Julije Ozegetic, University of Split, Croatia

Comparative study of high order statistics estimators

Arnaud Martin, Ali Mansour, ENSIETA, France

Efficient Algorithms for Medical Sequences Decorrelation by 3D-Wavelet Transform

Encarnacion Moyano, Francisco J. Quiles, Luis Orozco-Barbosa, Universidad de Castilla-La Mancha, Spain

Performance of the Hamming ANN for the Recognition of Gait Phases

Vladan Papic, Vlasta Zanchi, University of Split, Croatia

The Modulation Approach in Perceptual Evaluation of Speech Quality

Ivo Mateljan, University of Split, Croatia

Monday, October 11, 17:00-18:30, (BRAC)

S4 – INFORMATION INFRASTRUCTURE AND SECURITY

Chair: Francesco Palmieri, University "Federico II" – Napoli, Italy

Descriptive Data Mining Modeling in Telecom Systems

Ivo Pejakovic, Zoran Skocir, University of Zagreb, Croatia; Damir Medved, T - Croatian Telecom, Croatia

Analyzing the Impact of Internet Worms on Global Routing Stability

Francesco Palmieri, University "Federico II" – Napoli, Italy

Combined Public Key Cryptosystem

Wen Tang, Nan Xiang-hao, Chen Zhong, Peking University, China

On Some Security Issues of Mobile Agent Systems

Katalin Sója, Ambrus Wagner, Gabor Nemeth, Budapest University of Technology and Economics, Hungary

Trap E-mail Address for Combatting E-mail Viruses

Boldizsar Bencsath, Istvan Vajda, Budapest University of Technology and Economics, Hungary

Monday, October 11, 09:00-10:30, (HVAR)

S5 – TELECOMMUNICATIONS SERVICES AND QOS I

Chair: *Gottfried Luderer, Arizona State University, USA*

A Study About the Applicability of the MPLS/CBR Model in QoS providing in IP Network

Nelcileo Araujo, Federal University of Mato Grosso, Brazil; Paulo Guardieiro, University of Uberlândia, Brazil

Resource allocation and opportunistic scheduling for UMTS-TDD

Illia Racunica, Aawatif Menouni, Christian Bonnet, Institut Eurecom, France

Handling Link Failure Dependencies in Micro Mobility Network Reliability Modeling

Gyozo Godor, Mate Szalay, Sandor Imre, Budapest University of Technology and Economics, Hungary

A Map Matching Algorithm with Positioning Area Input

Ivica Cubic, Ericsson NT, Croatia, Romeo Svalina, T - Croatian Telecom, Croatia.

Monday, October 11, 11:00-12:30, (HVAR)

S6 – TELECOMMUNICATIONS SERVICES AND QOS II

Chair: *Zoran Skocir, University of Zagreb, Croatia*

IAEMS: A System for Measuring E2E Network Performances with Intelligent Agent

Ming Chen, Qianglin Chang, Yi Gao, Rui Zhang, Lihua Song, Xiaofeng Qiu, Institute of Communications Engineering, China

Linear e-suboptimal network flow allocations

Primoz Skraba, Almir Mutapcic, Stanford University, USA

On Using Controllers for Active Queue Management

Deepak Agrawal, Fabrizio Granelli, University of Trento, Italy

Receiver Based Bandwidth Sharing Strategy for Wireless Mobile Networks

Jaegyu Jung, Samsung Electronics, Korea University, South Korea, Banghun Chun, Youngjoo Kim, Samsung Electronics, South Korea, Chuck Yoo, Korea University, South Korea.

VoIP QoS on low speed links

Ivana Pezelj, Croatian Academic and Research Network – CARNet, Croatia, Julije Ozegovic, Ljubomir Hrboka, University of Split

Monday, October 11, 15:15-16:45, (HVAR)

S7 – TELECOMMUNICATIONS SERVICES AND QOS III

Chair: *Pascal Lorenz, Univ. de Haute Alsace, France*

Receiver – based Management Scheme of Access Link Resources for QoS- Controllable TCP Connections

Go Hasegawa, Kazuhiro Azuma, Masayuki Murata, Osaka University, Japan

Security Aspects of Network Management Systems

Periklis Chatzimisios, Bournemouth University, United Kingdom

The Meta-QoS-Class Concept: a Step Towards Global QoS inter-Domain Services

Pierre Levis, Mohamed Boucadair, Pierrick Morand, France Telecom R&D, France; Panos Trimintzios, C.C.S.R. University of Surrey, United Kingdom

Monday, October 11, 17:00-18:30, (HVAR)

S8 – NEXT GENERATION NETWORKS AND SERVICES

Chair: *Algirdas Pakstas, London Metropolitan University, UK*

A Domain Forming Algorithm for Next Generation, IP Based Mobile Networks

Vilmos Simon, Sandor Imre, Budapest University of Technology and Economics, Hungary

Agents Architecture to support Environmental Data Knowledge Management

Vincenzo Di Lecce, Politecnico di Bari, Italy; Ciro Pasquale, Vincenzo Piuri, University of Milan, Italy

Design of Real-Time VBR Traffic Shaping Schemes by Considering the Impact of Both Buffer Overflows and Deadline Violations

Tamer Dag, Isik University, Turkey; Ioannis Stavrakakis, University of Athens, Greece

New signaling mechanisms for multi-provider and cross-network services

Claude Rigault, Rony Chahine, ENST, France

The next-generation network as an express way for the Internet

Takahiko Yamada, Ritsumeikan University, Japan

Vocabulary Development for Event Notification Services

Kresimir Pripuzic, University of Zagreb, Croatia; Darko Huljenic, Antun Caric, NetworkStar KATE, Croatia

Fundamental Attributes of High-Speed Networks

Seshasayi Pillalamarri, City of Phoenix, USA, Sumit Ghosh, Stevens Institute of Technology, USA.

Monday, October 11, 11:00-12:30, (KORCULA)

S9 – NETWORK OPERATIONS AND MANAGEMENT I

Chair: Thomas Fischer, Technische Universität München, Germany

A Practical Topology Discovering Scheme for Large Heterogeneous LANs

Dongli Zhang, University of Ottawa, Canada; Guangming Xing, Western Kentucky University, USA

An OSNR-Optimal Photonic Network Model with Dispersive and Nonlinear Constraints

Thomas Fischer, Technische Universität München, Germany

Data Mining Techniques for Effective Analysis of Multi-Gigabit Network Traffic

Mario Baldi, Elena Baralis, Fulvio Rizzo, Politecnico di Torino, Italy

Effect of Wireless LAN Management Based on the Mobile Agents Paradigm

Hrvoje Tkalcic, Croatia Airlines Ltd, Croatia; Marijan Kunstic, University of Zagreb, Croatia

Call routing methods for Mobile Number Portability in Croatia

Ivan Viskovic, T – Croatian Telecom, Croatia.

Monday, October 11, 15:15-16:45, (KORCULA)

S10 – NETWORK OPERATIONS AND MANAGEMENT II

Chair: Fulvio Rizzo, Politecnico di Torino, Italy

Introducing Advanced Database Concepts for the Improvement of Telecommunications network analysis

Nenad Dragan, Robertina Jarak, Mihaela Sokic, T - Croatian Telecom, Croatia

Partial Burst Dropping Strategy for Optical Burst Switching Networks

Abdelouahab Abid, Multimedia University, Malaysia

Policy-based Management Using Web Services Based Active Network Architecture

Maroun Chamoun, Rima Kilany, Saint-Joseph University, Lebanon; Ahmed Serhrouchni, ENST – Paris, France

Self-Organization for IP Networking on Mobile Wireless Networks

Yihjia Tsai, Cheng-Chin Lin, Ching-Chang Lin, Tamkang University, Taiwan

Monday, October 11, 17:00-18:30, (KORCULA)

S11 – INTERNET AND IP BASED ENVIRONMENTS AND SERVICES

Chair: Darko Huljenic, KATE d.o.o., Croatia

A New Scalable Reliable Multicast Transport Protocol for Satellite Networks (RMT)

Prawit Chumchu, University of New South Wales, Australia, R. Boreli, A. Seneviratne, National ICT Australia Ltd*, Australia

Analysis of the Current State in the m-commerce Applications

Darko Huljenic, Antun Caric, Ozren Labor, NetworkStar KATE, Croatia; Zeljka Car, University of Zagreb, Croatia

Interleaving Harmonic Broadcasting Scheme with Limited Client Bandwidth

Hung-Chang Yang, Hsiang-Fu Yu, Li-Ming Tseng, Yi-Ming Chen, National Central University, Taiwan

Semantic Matchmaking of Advanced Personalized Mobile Services using Intelligent Agents

Krunoslav Trzec, Sasa Desic, Ericsson Nikola Tesla, Croatia; Alisa Devlic, Gordan Jezic, Mario Kusek, University of Zagreb, Croatia

Using the Enterprise Application Integration tools to support the emergency warning system

Tatjana Listes, T - Croatian Telecom, Croatia; Damir Kalpic, University of Zagreb, Croatia

Relevant Parameters Analysis of the VoIP Traffic end-to-end Delay

Damir Dlake, T - Croatian Telecom, Croatia; Milutin Kapov, University of Split, Croatia

SPLIT, Tuesday, October 12

Tuesday, October 12, 09:00-10:30, (BRAC)

S12 – MOBILE AND WIRELESS COMMUNICATIONS I

Chair: Ferenc Balazs, Budapest University of Technology and Economics, Hungary

UTD Assessment of Coherence Bandwidth at 900MHz for Single-Floor Indoor Environment

Ivan Marinovic, Igor Zanchi, Zoran Blazevic, University of Split, Croatia

A Comparison of Mean Power Prediction with Wide-Band Measurements in the Indoor Environment

Zoran Blazevic, Igor Zanchi, Ivan Marinovic, University of Split, Croatia

A Robust QR-based Detector for V-BLAST and its Efficient Hardware Implementation

Fariborz Sobhanmanesh, Saeid Nooshabadi, University of New South Wales, Australia

Adaptive Channel and Power Allocation Algorithm for Multiuser OFDM Systems

Zeljko Ilic, University of Zagreb, Croatia, Josip Dulj, Ericsson Nikola Tesla, Croatia, Alen Bazanat, University of Zagreb, Croatia.

An Enhanced Mobile IP Protocol for Mobile Wireless Networks

Jeng-Yueng Chen, Wen-Shiung Chen, National Chi Nan University, Taiwan, *Yi-Hong Huang*, Hsiuping Institute of Technology, Taiwan, *Chun-Chuan Yang*, National Chi Nan University, Taiwan, *Heng-Te Chu*, Hsiuping Institute of Technology, Taiwan.

Estimation of the Effective Throughput in 802.11b WLAN Networks

Josip Lörincz, Dinko Begusic, University of Split, Croatia

Tuesday, October 12, 15:15-16:45, (BRAC)

S13 – MOBILE AND WIRELESS COMMUNICATIONS II

Chair: Franco Tommasi, University of Lecce, Italy

Dynamic CAC for 3G/4G WCDMA Systems

Sándor Imre, Budapest University of Technology, Hungary

M-Manager: Using a Mobile Portal to Support Coordination

Carlos Costa, Adetti/ISCTE, Portugal; *Manuela Aparício*, Lusocredito, Portugal

Performability Modeling of Cellular Mobile Systems with Prioritized Handoff Procedures

Vahideh Vakil, Karim Faez, Amirkabir University of Technology, Iran

New Online Power-aware Routing Algorithms in Wireless Networks

Antti Autere, Helsinki University of Technologie, Finland

Low Complexity Multiuser Ddetectors for TD-SCDMA Systems: Design and Implementation

Angela Bifano, Politecnico di Milano, Italy, *Vittorio Rampa*, I.E.I.I.T., Italy

Tuesday, October 12, 17:00-18:30, (BRAC)

S14 – MOBILE AND WIRELESS COMMUNICATIONS III

Chair: Ivan Marinovic, University of Split, Croatia

Modified Radial Basis Network Based Blind Channel Estimation

Ferenc Balazs, Sandor Imre, Budapest University of Technology and Economics, Hungary

Multimedia Transmission over Mobile Networks

Tamás Jursonovics, Zsolt Butyka, Sándor Imre, Budapest University of Technology and Economics, Hungary

Performance Analysis of Small World Application Layer for Ad-hoc Networks

Ivana Sekula, Mladen Franic, T - Croatian Telecom, Croatia

Adaptive Image Transmission in Multicarrier Modulation System

Zhongrui Qi, Zhenmig Gao, Shandong University, China

Wednesday, October 13, 09:00-10:30, (BRAC)

S15 – OPTICAL AND PHOTONIC COMMUNICATIONS

Chair: Vesna Roje, University of Split, Croatia

Agent-based Electronic Market for Optical Bandwidth Trading

Krunoslav Trzec, Ericsson Nikola Tesla, Croatia; *Branko Mikac*, University of Zagreb, Croatia

Delta Burst-Polling Based Dynamic Bandwidth Allocation Scheme for QoS over E-PONS

Yeon-Mo Yang, Gwangju Institute of Science and Technology, South Korea, *Ji-Myong Nho*, Catholic University of Daegu, Korea, South, *Byung-Ha Ahn*, Gwangju Institute of Science and Technology, South Korea.

Analysis of Optical Backbone Architectures for Core IP Networks

Vedran Bozic, T-Croatian Telecom, Croatia, *Marija Vrdoljak*, University of Split, Croatia

Wednesday, October 13, 09:00-10:30, (HVAR)

S16 – MULTIMEDIA AND VIRTUAL REALITY SYSTEMS

Chair: Anna Gentile, Ilenia Paladini, University of Lecce, Italy

A Virtual Museum for Education in Art through Graphic Animation and 3-D

Anna Gentile, Ilenia Paladini, University of Lecce, Italy

An AI-based Software Tool for Intelligent E-Movie Creation

Jinhong Shen, Terumasa Aoki, Hiroshi Yasuda, University of Tokyo, Japan; *Seiya Miyazaki*, Matsushita Electric Industrial Co, Japan

Development of Multimedia Learning Software About MP3 Audio Coding With Special Regard to Usability Principles and Multimedia Learning Theories

Daniel Pape, ZAS Berlin, Germany, *Gerrit Kalkbrenner*, University of Dortmund, Germany

Online Optimal Smoothing of VBR Stream Aggregations in Systems with Available Bandwidth Constraints

Pietro Camarda, Antonio De Gioia, Domenico Striccoli, Politecnico di Bari, Italy

Wednesday, October 13, 11:00-12:30, (HVAR)

S17 – COMMUNICATION THEORY

Chair: Igor Zanchi, University of Split, Croatia

A Communication Model with Sensitive Distance Approach

*Yihjia Tsai, Cheng-Chin Lin, Ping-Nan Hsiao, Wen-Fa Huang,
University of Tamkang, Taiwan*

**A Framework for Analysis of Connectivity and Performance
Bounds in Slotted ALOHA-Based Ad Hoc Networks**

Fabrizio Granelli, University of Trento, Italy

Carrier Synchronization Based on Renyi's Entropy

Maciej Pedzisz, Ali Mansour, ENSIETA, France

**Improved Antnet Routing Algorithm With Link Probability
Evaporation Over the Given Time Window**

*Firat Tekiner, Zabih Ghassemlooy, Northumbria University,
United Kingdom; S. Al-khayatt, School of Computing and
Management Sciences, United Kingdom*

**Further Analysis of the Number of Spanning Trees in
Circulant Graphs**

*Talip Atajan, Tokyo Denki University, Japan, Xuerong Yong,
Rutgers University, USA, Hiroshi Inaba, Tokyo Denki University,
Japan*

TECHNICAL PROGRAM: POSTER SESSION

SoftCOM 2004 October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

VENICE, Wednesday, October 13

Wednesday, October 13, 09:00-10:30, (ADRIATIC)

PS – POSTER SESSION

Session organizer: Hrvoje Dujmic, University of Split, Croatia

Chair: Milutin Kapov, University of Split, Croatia

Edge Router Design Considerations for Multi-Service Local Access IP Networks

Brian Carrig, David Denieffe, Institute of Technology, Carlow, Ireland

Extending the Dynamic Source Routing (DSR) Protocol to Deal with Node Selfishness in Ad Hoc Networks

Vangelis Angelakis Apostolos Traganitis, University of Crete, Greece

Deploying the Super Peer Model in Mobile Ad Hoc Networks

Ahmed M. Mahdy, Jitender S. Deogun, Jun Wang, University of Nebraska-Lincoln, USA

Provisioning of Node Degree in Optical Wireless Networks

Ahmed M. Mahdy and Jitender S. Deogun, University of Nebraska-Lincoln, USA

Development of Distributed System for Practical Vehicle Routing Problems

Ivana Cavar, Ante Galic, Juraj Fosin, Tonci Caric, Hrvoje Gold, University of Zagreb, Croatia

A New Approach of Instant Message Extended from Short Message Service with XML-based Jabber Protocol

Heng-Te Chu, Wen-Shiung Chen, National Chi Nan University, Taiwan, Yi-Hung Huang, Hsiuping Institute of Technology, Taiwan, Jeng-Yueng Chen, Hsiuping Institute of Technology, Taiwan, National Chi Nan University, Taiwan.

SoftCOM 2004 Professional Program

SoftCOM 2004, October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

WORKSHOP ON INFORMATION AND COMMUNICATION TECHNOLOGIES

SPLIT, Tuesday, October 12

Tuesday, October 12, 09:00-10:30, (HVAR)

WICT1 – WORKSHOP ON INFORMATION AND COMMUNICATION TECHNOLOGIES I

Chair: *Kapov Milutin, University of Split, Croatia*

Three Tiered Architecture Within Corporate Information System

Neven Josip Hrzina, University of Zagreb, Croatia

Performance Analysis of ARQ in IEEE 802.11b WLAN

Ivan Ivanisevic, Nikola Rozic, University of Split, Croatia

GPS Assisted In-car Sightseeing Voice Guide

Zoran Civadelic, Danijela Oreb, Ericsson Nikola Tesla, Croatia

Migration from ToATM towards ToIP using BICC

Lovre Hribar, Damir Buric, Denis Duka, Ericsson Nikola Tesla d.d, Croatia

Fragmentation in distributed databases

Natasa Pecur, Croatian Motorways Ltd., Croatia

Holistic Approach to DBMS Tuning

Ninoslav Cerkez, IN2 d.o.o., Croatia; Zoran Skocir, University of Zagreb, Croatia

Tuesday, October 12, 15:15-16:45, (HVAR)

WICT2 – WORKSHOP ON INFORMATION AND COMMUNICATION TECHNOLOGIES II

Chair: *Marasovic Jadranka, University of Split, Croatia*

Testing Neighbour Discovery Protocol As a Means of IPv6 Address Assignment

Antonia Kujundzic, Hrvoje Dogan, CARNet, Croatia

Specification of context-aware mobile services over a distributed brokerage framework: The ubiquitous Media Streaming example

Eleftherios Koutsoloukas, Sofia Kapellaki, John Papanis, Nick Dellas, Nikolaos Tselikas, George Prezerakos, Technological Education Institute of Piraeus, Greece

Visualization of IP Traffic Characteristics Using Cisco's NetFlow

Igor Velimirovic, CARNet, Croatia; Mario Klobucar, Vladimir Kovacevic, SRCE, Croatia

Trusted Transactions with Mobile Phones

Zoltán Faigl, Gergely Kontra, Budapest University of Technology and Economics, Hungary

Ethernet TCP/IP Protocol in Industrial Environment

Nenad Muskinja, Boris Tovornik, Martin Terbec, University of Maribor, Slovenia

Optimal Approach in E - book Learning Based on Dynamic Programming

Jadranka Marasovic, Maja Cic, Goran Vodanovic, University of Split, Croatia

Tuesday, October 12, 17:00-18:30, (HVAR)

WICT3 – WORKSHOP ON INFORMATION AND COMMUNICATION TECHNOLOGIES III

Chair: *Julije Ozegovic, University of Split, Croatia*

New Generation Worms: Ananalysis and Defence

Biswajit Sarker, University of Dhaka, Bangladesh

Resource Reservation in IP Networks

Josko Rebic, Nikola Rozic, University of Split, Croatia

Implementation of IEPS in Multi Service Networks and impacts on call control protocols

Alen Bulic, Damir Buric, Lovre Hribar, Ericsson Nikola Tesla, Croatia

Adopting the Horizontal Layering in the GSM/UMTS Network

Denis Duka, Lovre Hribar, Damir Buric, Ericsson Nikola Tesla, Croatia

Improving Text Search Performance with Grammar Support

Damir Krstinic, Ivan Slapnicar, University of Split, Croatia

An Efficient Image Transmission Scheme in OFDM System Based on HVS

Zhongrui Qi, Zhenmig Gao, Shandong University, China

A Global Internet Performance Service Based on Forecast

Rui Zhang, Ming Chen, Xiren Xie, Lihua Song, Jian Chen, Institute of Communication Engineering, China

WORKSHOP ON SIGNALS AND SYSTEMS IN HUMAN MOTION

SPLIT, Tuesday, October 12

Tuesday, October 12, 15:15-16:45, (KORCULA)

WSSHM1 – WORKSHOP ON SIGNALS AND SYSTEMS IN HUMAN MOTION

Workshop organizer: Vlasta Zanchi, University of Split, Croatia
Chair: Vlasta Zanchi, University of Split, Croatia

Human motion identification

Vlasta Zanchi, Tamara Supuk, University of Split, Croatia

Slow Speed Mathematical Model of Biped Gait

Mojmil Cecic, University of Split, Croatia

Direct Dynamics Approach to Sit-To-Stand Movements in Sagittal Plane

Ana Kuzmanic, University of Split, Croatia

Identification of Human Motion by Nonparametric Background Modeling and Star-skeletonization

Josip Music, Vlasta Zanchi, University of Split, Croatia

Case Report: Student Exercises on Analysis of Human Locomotion

Stjepan Podrug, Vlasta Zanchi, University of Split, Croatia

Applications of Radio Systems to Biomechanics Experiments

Zoran Blazevic, Igor Zanchi, Ivan Marinovic, University of Split, Croatia

Experiment vs. Modelling and Simulation-A Task For Biomechanists

Vladimir Medved, University of Zagreb, Croatia

Tuesday, October 12, 17:00-18:30, (KORCULA)

WSSHM2 – WORKSHOP ON SIGNALS AND SYSTEMS IN HUMAN MOTION II

Workshop organizer: Vlasta Zanchi, University of Split, Croatia
Chair: Vladimir Medved, University of Zagreb, Croatia

Visual Identification of Human Kinematics Using Markers

Toma Roncevic, University of Split, Croatia

Surface Electromyography: Measurement, Processing and Analysis of Semg Signals Recorded During Gait

Tamara Supuk, Mojmil Cecic, University of Split, Croatia

Identification of muscle activity during Rowing Stroke

Ante Panjkota, University of Split, Croatia

Haptic Feedback in the use of rendering Color Information

Satyajit Chakrabarti, Sukanta Pramanik, David Du, University of British Columbia, Canada; Rajashree Paul, Simon Fraser University, Canada

Arm Adduction - Abduction Kinematic Characteristics of Handball Goalkeeper

Nenad Rogulj, Vladan Papic, University of Split, Croatia

Isokinetic diagnostics; Computerized objectivization of muscle and joint function parameters in prevention of injuries and cronical damage

Slobodan Kvalja, Dubravka Mutic-Kvalja, Cybex, Croatia; Osman Muftic, University of Zagreb, Croatia

Paramorphic and Dismorphic Changes of the Thorax in the Early Adolescents

Zdenko Kosinac, Jelena Paušic, University of Split, Croatia

BUSSINES FORUM: ROUND TABLES

SoftCOM 2004, October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

ROUND TABLE: HITRA - CROATIAN PROGRAM OF INNOVATIVE TECHNOLOGICAL DEVELOPMENT (IN CROATIAN)

SPLIT, Tuesday, October 12, 16:00-18:00, (ADRIATIC)

THE IMPORTANCE OF THE NATIONAL INNOVATIVE SYSTEM FOR ECONOMY DEVELOPMENT

Prof. dr. sc. Juraj Božicevic, *State Secretary*

HITRA - TEST I RAZUM – A STIMULATION TO COMMERCIALIZATION OF KNOWLEDGE

Dr. sc. Hrvoje Zorc, *Deputy minister*

Abstract: In the year 2001 the program HITRA was initiated with the idea to stimulate and foster the use of accumulated knowledge through a number of development projects. The first subproject called TEST is devoted to support financially the development of "products" and the second subproject RAZUM to give the final push to commercialization via setting up knowledge based small enterprises. Here scientists have to face with their new position of scientific entrepreneurs what requires also additional education. Results of more than three years old program will be shown with the idea to get response from industry which has to compete on the market with new high quality products.



Biography Hrvoje Zorc was born in Zagreb, Croatia, where he graduated physics at the Faculty of Science, University of Zagreb. Since 1977 he is member of Rudjer Boskovic Institute in Zagreb, where he was Ph. D. awarded with the thesis "Optical bistability of a multilayer system with a compound resonant cavity". Since 2002 he was head of the Division of laser and atomic R&D of Rudjer Boskovic Institute. At present he is Deputy Minister of science for technology.

He is expert for optical thin films, deposition monitoring, multilayer design, ion-assisted deposition processes, application of light in medicine, applications of lasers, vacuum technologies, synthesis of fullerenes, etc. He is member and past president of Croatian Vacuum Society, Croatian Physical Society, Croatian Astronomical Society and Optical Society of America.

SYSTEM "RAZUM" AND ITS FINANCIAL SUPPORT

Dr. sc. Hrvoje Prpic, *Business and Innovation Centre of Croatia (BICRO), CROATIA*

Abstract: **Business Innovation Center of Croatia – BICRO** is an innovation and investment company established by the Croatian Government in order to facilitate technology transfer and commercialization activities primarily in the sector of small and medium-sized companies, contribute to the creation and development of private equity industry (specially VC), and promote the establishment and development of science and technology parks/centers/other related institutions. BICRO is in the process of strategic restructuring with the prime purpose of improving its ability to support Croatian Industry by implementing and further refining different S&T related programs, like RAZUM, PQF, VENCRO, TechPro etc.



Biography: *Dr. Hrvoje Prpic, born in Zagreb, 21. 01. 1959.*

Received B.S. at University of Zagreb, Faculty of Medicine in 1981.

During 1985 – 1999 completed the residence in Nuclear Medicine at Clinical Hospital "Sestre milosrdnice" in Zagreb, and International Atomic Energy Agency fellowship in Leiden, Holland. Worked in the field of diagnostic procedures of various ischemic disorders, and participated in scientific research of ischemic heart disease.

From 1999 – 2002 joined a group of IT experts in the private company, DIA Marketing, Zagreb. As a Head of Sales Department the responsibility was to develop, promote and implement specific IT solutions in graphic industry, like Digital Media Solutions, Digital Asset Management etc. From 2002 – 2003 worked as a Sales Manager at Hospitalija d.d., Zagreb. Current position: General Manager, BICRO d.o.o., Zagreb, Croatia.

SMS SCHOOL NOTIFICATION SYSTEM: FROM IDEA TO COMMERCIALIZATION

Dr. sc. Antun Caric, *KATE d.o.o.*



Biography: *Antun Caric: Recved his B.S., M.S., and Ph. from the University of Zagreb. He is an assistant profesor at the university in the Faculty of Electrical Engineering and Computer Science. Currently he is director of Kate – Research and development Zagreb. His fields of interest include research and development, software design, network signaling and control, open systems, and new network services and applications.*

EXPERIANCES IN QUALITY GUARANTEE PROMOTION IN CROATIAN SMALL AND MIDDLE ENTERPRISES

Ivan Bracic, *Assistant Minister*

ROUND TABLE: CRO - GRID PROJECT

VENICE, Wednesday, October 13, 09:00-09:45, (ADRIATIC)

Moderator: prof. dr. sc. Ivan Slapnicar, *Member of the Steering Committee, University of Split, CROATIA*

IMPORTANCE OF INTRODUCING GRID-BASED TECHNOLOGIES IN CROATIA

Prof. dr. sc. Leo Budin, *FER, Zagreb, President of the Steering Committee, CROATIA*

CHOICE, ACQUISITION, INSTALLATION AND TESTING OF THE CROATIAN ACADEMIC COMPUTING GRID

Dobriša Dobrenic, *SRCE, Zagreb, Head of "CRO-GRID Infrastructure", CROATIA*

DEVELOPMENT OF MEDIATOR - THE KEY COMPONENT OF PRACTICAL USAGE OF GRID

Prof. dr. sc. Siniša Srbljic, *FER, Zagreb, Head of "CRO-GRID Mediator", CROATIA*

CURRENT STATE OF THE MOST INTERESTING APPLICATIONS FOR CROATIAN GRID

Dr. sc. Karolj Skala, *IRB, Zagreb, Head of "CRO-GRID Applications", CROATIA*

ROUND TABLE: ELECTROMAGNETIC SMOG CONCERNS – SAFETY GUIDELINES AND STANDARDS

DUBROVNIK - SPLIT, Monday, October 11, 16:00-16:45, (ADRIATIC)

Moderator: Vesna Roje, *University of Split, Croatia*



The purpose of this Round Table is to acquaint the participants with EMC standards and standards-related issues, which could be interesting for communication community, particularly with the safety aspects of the electromagnetic radiation concerning human health.

The idea for initiating such a meeting was driven by the fact that although it is not scientifically clearly evidenced the concern about possible health risks results from the expose to the RF radiation (GSM base station, mobile phones, LAN, WLAN, bluetooth) exists and is even growing, especially in public.

This important aspect of the electromagnetic compatibility arising from the new communication technology obviously cannot be avoided any more

Because of the importance of assessing the health risk, the bodies for creating the safety norms concerning these problems have been established at the international, European and national levels and the adequate documents are developed or are in the process of development.

The goal we would like to achieve by organizing this round table is to introduce to the participants at least some of the documents dealing with the assessments of the health risks. We hope that the round table discussion could be helpful in exchanging the knowledge and experiences between the researchers from academia, industry and government same as between the participants from the wide communication engineering community, so to be able to successfully cope with the electromagnetic radiation threats and effectively manage safety problems in design, manufacture, installation and operational use.

POSTPROCESSING OF THE HUMAN BODY RESPONSE TO TRANSIENT ELECTROMAGNETIC FIELDS

Dragan Poljak, *University of Split, FESB, CROATIA*

BUSINESS PRESENTATIONS

SoftCOM 2004, October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

SPLIT, Tuesday, October 12

ADSL services, *T - Croatian Telecom*, (ADRIATIC)

09:00 – 10:00

IP VPN, (ADRIATIC)
Aljoša Pavelin, T - Croatian Telecom
WLAN, (ADRIATIC)
Lana Divjak, T - Croatian Telecom

15:15 – 15:45

Integrated Fire Protection Model for Split-Dalmatian County, (MLJET)
D. Stipanicev, University of Split

BUSINESS FORUM: PROTOTYPE PRESENTATIONS

SoftCOM 2004, October 10-13, 2004
Split, Dubrovnik (Croatia)
Venice (Italy)

DUBROVNIK, Monday, October 11,

09:00 – 09:45

Audio Quality Measurement in Communications, (VIS)
I. Mateljan

SPLIT, Tuesday, October 12,

09:00 – 09:45

Electronic Aids in Daily Living, (VIS)
Ivo Stojan, Ante Restovic, Ericsson NT

GENERAL INFORMATION



LOCATION

SoftCOM 2004 and all related events (Tutorials, Workshops, Business Forum, Exhibitions) will be held aboard the cruising ship "Marko Polo". The ship will cruise on the route Split – Dubrovnik – Split – Venice. The complete itinerary is available on the web: <http://www.fesb.hr/SoftCOM>. The ship "Marko Polo" will be available for accommodation in Split from October 10.

HOW TO GET TO SPLIT

by air: Split can be reached directly or via Zagreb from all world airports. Split airport is only 20 minutes by bus.

by ship: Split harbor is connected with Rijeka (Croatia) and Ancona (Italy).

WEATHER

In October the weather in Split is very nice, with an average temperature of about 20 degrees Celsius and the sea temperature is agreeable for swimming.

LANGUAGE

The Conference language is English.

PROCEEDINGS

All participants will receive the Final Program and Proceedings when registering at the conference desk.

REGISTRATION AND RECEPTION

Registration starts on October 10 at 11 o'clock. Each other day of the Conference registration desk will be open from 08:00 till 16:00

SECRETARY

Hrvoje Dujmic
FESB Split
University of Split
R.Boškovića b.b.
Fax: +385 21 463 877
E-mail: softcom@fesb.hr

21000 Split, Croatia
Tel: +385 21 305 900

<http://www.fesb.hr/SoftCOM>

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