SoftCOM 2016 - CONTENTS

GENERAL CO-CHAIRS MESSAGE

Dear participants and colleagues, it is our pleasure to welcome you to SoftCOM 2016 conference. We are excited to have an opportunity to take part in the organization of an international conference that gathers researchers and professionals from academia and industry to share experiences and new ideas in such a dynamic area as Information and Communication Technology.

We are together building a society where every person and every industry is empowered to reach their full potential. Anything that can benefit from a connection will be connected, enabling people to collaborate, innovate, learn, participate in ways we never thought possible, and opening ground for new discoveries. While the past decades of progress have shown great promise, this has only laid the foundation for what is set to come.

This new age can deliver growth and prosperity based on greater social cohesion and environmental sustainability, holding the potential to truly shape the future and leave a positive legacy for generations to come.

The 24th International Conference on Software, Telecommunications and Computer Networks (SoftCOM 2016), co-sponsored by the IEEE Communications Society, will be held in the beautiful city of Split located on the magnificent Croatian Adriatic coast. It will be our pleasure to meet you at the conference.

Welcome!

Dr. Siniša Krajnovic, Ericsson AB

TEHNICAL PROGRAM CHAIRS MESSAGE

The 24th Conference on Software, Telecommunications and Computer Networks (SoftCOM 2016) will be held in attractive ambience of the Radisson Blu Resort Split hotel, Split, Croatia, September 22 to 24.

Researchers and experts from industry, research institutes and universities from 30 countries all around the world have submitted in total 167 papers for presentation at SoftCOM 2016. Submitted papers have been reviewed by more than 200 scientists from universities, institutes and ICT companies. All accepted papers have been carefully selected based on their contribution, relevance, conceptual clearness and overall quality. 49% of submitted papers have been recommended for presentation within the technical program.

The technical conference program features seven general conference sessions, three symposia, and four special sessions. The symposia have been dedicated to the following topics: Environmental Electromagnetic Compatibility, Green Networking, and Smart Environment Technologies. The special sessions are dedicated to hot topics including: RFID Technologies and the Internet of Things, Ad Hoc Sensor Networks, QoS in Wired and Wireless Networks, and Security and Digital Forensics.

In conjunction with the SoftCOM 2016 conference a professional 5th Workshop on Software Engineering in Practice has been organized by the research group from Ericsson Nikola Tesla company.

Besides that a Business Forum will be organized featuring invited talks, workshops and round tables with participation of managers, experts, and institutions' representatives. A round table on Broadband Internet Access has been organized by HAKOM (Croatian National Authority for Network Industries).

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.

Program Committee Co-chairs

Nikola Rozic, Dinko Begusic

SoftCOM 2016 COMMITTEES

TECHNICAL PROGRAM COMMITTEE

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Nikola Rozic, University of Split, Croatia (Co - Chair)

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UNIVERSITY OF SPLIT

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

COMMUNICATIONS AND INFORMATION SOCIETY, CROATIA (CCIS)

Under the auspices of:

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REPUBLIC OF CROATIA

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SoftCOM 2016 General Secretary
Petar Šolić, University of Split, softcom@fesb.hr

http://www.fesb.hr/SoftCOM

SoftCOM 2016 PROGRAM OUTLINE

Thursday, September 22, 2016 *(location**: Hotel Radisson Blu**)*

09.00 - 13.30 Registration

10.00 - 11.30 Technical program, Professional program, Business forum

11.30 - 12.00 Coffee break

12.00 - 13.30 Technical program, Professional program, Business forum

Lunch time

15.00 - 18.30 Registration

15.00 - 16.30 Technical program, Professional program, Business forum

17.00 - 19.00 Guided Tour in Split

Friday, September 23, 2016 *(location**: Hotel Radisson Blu**)*

08.00 - 11.00 Registration

09.00 - 10.30 Technical program, Professional program, Business forum

10.30 - 11.00 Coffee break

11.00 - 12:30 Opening ceremony, Keynote speech

Conference Luncheon

14.30 - 18.00 Registration

14.30 - 16.00 Technical program, Professional program, Business forum

15.30 - 16.30 Poster Session

16.00 - 16.30 Coffee break

16.30 - 18.00 Technical program, Professional program, Business forum

18.15 Bus transfer to Port of Split

18.30 – 21.00 Welcome Party in Split

Saturday, September 24, 2016 *(location: **Hotel Radisson Blu**)*

08.00 - 12.00 Registration

9.00 – 10.30 Technical program, Professional program, Business forum

10.30 - 11.00 Coffee break

11.00 - 12.00 Invited talk

Lunch

13.00 – 18.00 Conference Trip

KEYNOTE SPEECH

Friday, September 23
11:00.12:30 (GRAND BALLROOM)

Sandor Albrecht, PhD

Director Networking Technologies
Ericsson Research

LOOOM: Defining Control Systems for 5G

Leading industrial software for control systems used in network equipment has been developed over multiple years or even decades with a tradition of writing embedded systems programmed in C. Such systems commonly face issues related to a high degree of complexity with high cost of maintenance and further development as a consequence. Looom addresses such issues, by the introduction of a toolkit aimed to make developing software for control software much more efficient.

Coupling modeling and logic programing, we have defined a set of languages. Using the Looom toolkit a control system is specified in terms of these languages, and then code generators are invoked to automatically produce structured C-code including a build system. The reuse and extensibility of the Looom languages and code generators allow a major decrease in the amount of code that needs to be manually maintained, and a much more efficient method for developing and maintaining large control software systems.

The introduction of 5G will make new services available for business development in market areas such as massive internet of things, ultra reliable communication and extreme real-time communication. 5G services will bring new requirements, for example on low latency and redundancy, which has implications on what network functions are needed, and in what location these functions are to be provisioned and invoked. 5G control systems will need to support policy, enabling the orchestration of the network and its functions to provide a diverse set of services. We argue that the approach towards software development provided by Looom is well suited for building control systems for 5G, capable of efficiently rolling out a multitude of advanced services.

Sandor Albrecht
received his M.Sc.E.E. and Ph.D. from Budapest University of Technology and Economics in 1993 and 2004, respectively. He also received a M.A.Sc. from the University of British Columbia, Vancouver, BC, Canada in 1998 and a MBA from Central European University Business School, Budapest, Hungary in 2009. Between 1993 and 1998, he participated in several digital signal processing and radar imaging related research and development project as a researcher and software developer in Hungary and Canada. He joined Ericsson in Hungary in 1999, where he worked as a manager leading software development projects and departments. He was responsible for four different product development areas, such as SmartEdge (Multi-Service Edge Router), Mobile Media Gateway, IMS Gateway and Telephony Softswitch Gateway Controller. He moved to Stockholm in 2010 and joined the IP and Broadband Design Unit, where his main responsibility was to define and manage the Ericsson wide technology strategy for IP and packet transport evolution. Since March 2013, he is the Director of Networking Technologies at Ericsson Research. His area of interest covers photonics systems, Xhaul and transport solutions for 5G, network programmability, Information-Centric Networking (ICN), and high-performance cloud networking and routing related research

INVITED TALK

Saturday, September 24
11:00-12:00 (BRAČ)

Abdelhamid Mellouk, PhD

Technology Institute & High School Engineering
University of Paris-Est Créteil
France (UPEC)

Convergence technologies based on quality of experience and quality of service paradigms

Based on a convergence of network technologies, the current networks are being deployed to carry high quality video and voice data. In fact, the convergence of network technologies has been driven by the converging needs of end-users. The perceived end-to-end quality is becoming one of the main goals required by users that must be guaranteed by the network operators and the Internet Service Providers, through manufacturer equipment. This is referred to as the notion of Quality of Experience (QoE) and is becoming commonly used to represent user perception. The QoE is not a technical metric, but rather a concept consisting of all elements of a user's perception of the network services. In this talk, we focus on the idea of how to integrate the QoE into a control-command chain in order to construct an adaptive network system. More precisely, in the context of Content-Oriented Networks that is used to redesign the current Internet architecture to accommodate content-oriented applications and services, the talk aim to describe an end-to-end QoE model applied to a Content Distribution Network architecture and see relationships between Quality of service and Quality of Experience.

Abdelhamid Mellouk

Full Professor, University of Paris-Est (UPEC), Networks & Telecommunications (N&T) Department and LiSSi Laboratory, France. Abdelhamid Mellouk graduated in computer network engineering from the Computer Science High Eng. School, University Oran-EsSenia, Algeria, and the University of Paris Sud XI Orsay, received his Ph.D. in computer science from the same university, and a Doctorate of Sciences (Habilitation) diploma from UPEC. Head of several executive national and international positions, he is the founder of the Research activity and curricula degrees dedicated to Network area in UPEC with extensive international academic and industrial collaborations. His general area of research is in adaptive real-time bio-inspired control for high-speed new generation dynamic wired/wireless networking in order to maintain acceptable quality of service/experience for added value services. He is an active member of the IEEE Communications Society and held several offices including leadership positions in IEEE Communications Society Technical Committees. He has published/coordinated eight books, 3 lecture notes and several refereed (around 200) international publications in journals, conferences, and books, in addition to numerous keynotes and plenary talks in flagship venues. He serves on the Editorial Boards or as Associate Editor for several journals, and he is chairing or has chaired (or co-chaired) some of the top international conferences and symposia (ICC, GlobeCom, VTC, etc.). In particular, he is the current chair of the IEEE ComSoc Switching and Routing Technical Committee after being the past chair of the IEEE ComSoc Communication Software Technical Committee. More recently, he is the TPC chair of Symposia of IEEE ICC 2017 in Paris, one of the flagship IEEE ComSoc conferences.

TEHNICAL PROGRAM: GENERAL CONFERENCE

Thursday, September 22, 10:00 - 11:30 (VIS)

S1: EDUCATION AND INFORMATION SYSTEMS

Chair: Mihaela Vranić (University of Zagreb, Faculty of Electrical Engineering and Computing, Croatia)

Analysing the Effect of Changing the Educational Methods by Using FCA
Sanda Dragos, Diana Haliță and Christian Săcărea (Babeș-Bolyai University, Romania)

Is FCA suitable to improve Electronic Health Record Systems?
Diana Haliță and Christian Săcărea (Babeș-Bolyai University, Romania)

Automated extraction and visualization of learning concept dependencies using Q-matrices and exam results
Mihaela Vranić, Damir Pintar and Luka Humski (University of Zagreb, Croatia)

University Social Network Benefits Analysis and Proposed Framework
Mihaela Vranić, Damir Pintar, Luka Humski, Zoran Skočir, Frano Škopljanac-Mačina, Ivana Brstilo, Nika Đuho, Kristina Klasnić, Snježana Mališa and Ana Marija Žuković (University of Zagreb, Croatia)

Thursday, September 22, 12:00 - 13:30 (VIS)

S2: NETWORK OPERATIONS AND MANAGEMENT

Chair: Matko Saric (University of Split, Croatia)

A highly adaptable probabilistic model for self-diagnosis of GPON-FTTH access networks
Serge Romaric Tembo and Jean-Luc Courant (Orange Labs, France); Sandrine Vaton (Telecom Bretagne, France); Stéphane Gosselin (Orange Labs, France)

Multi-Domain Virtual Network Embedding with Coordinated Link Mapping
Shuopeng Li, Mohand Yazid Saidi and Ken Chen (Université Paris 13, France)

Optimized Group Owner Selection in WiFi Direct Networks
Karim Jahed, Omar Farhat, Ghenwa Al-Jurdi and Sanaa Sharafeddine (Lebanese American University, Lebanon)

Analysis of Web Traffic Based on HTTP Protocol
Jiajia Chen (University of Nanjing, China); Weiqing Cheng (University of Nanjing, China; Southeast University, China)

In-Service Assessment of Mobile Services QoE from Network Parameters
Sibila Isak-Zatega (BH Telecom, Bosnia and Herzegovina); Vlatko Lipovac (University of Dubrovnik, Croatia)

Thursday, September 22, 15:00 - 16:30 (BRAČ)

S3: SIGNAL PROCESSING AND CODING I

Chair: Zoran Blažević (University of Split, Croatia)

Joint Turbo Decoding and Physical Layer Network Coding for Correlated Sources
Zid Youssef (NEST, Tunisia); Ridha Bouallegue (Innov'COM @ Sup'Com., Tunisia); Sonia Ammar (NEST, Tunisia)

Design of Spatially Coupled LDPC Codes based on Symbolic Hyper-Graphs
Massimo Battaglioni, Marco Baldi and Giovanni Cancellieri (Università Politecnica delle Marche, Italy)

Blind Propagation Channel Estimation with Enhanced Auto-Deconvolution
Rabah Maoudj, Ali Dziri and Michel Terre (CNAM, France)

Different Adaptive Beamforming Algorithms for Performance Investigation of Smart Antenna System
Ashraf A. M. Khalaf, Abdel-Rahman B. M. El-Daly and Hesham F. A. Hamed (Minia University, Egypt)

OFDM Error Floor Based EVM Estimation
Adriana Lipovac (University of Dubrovnik, Croatia); Borivoj Modlic and Mislav Grgic (University of Zagreb, Croatia)

Thursday, September 22, 15:00 - 16:30 (HVAR)

S4: QOS AND RESOURCE MANAGEMENT

Chair: Stefan Höst (Lund University, Sweden)

A Novel Test Creation Framework for Value-Added Services
Patrick Wacht and Ulrich Trick (Frankfurt University of Applied Sciences, Germany)

Development of FRR Mechanism by Adopting SDN Notion
Hasanein Hasan and John Cosmas (Brunel University, United Kingdom); Zaharias Zaharis (Aristotle University of Thessaloniki, Greece); Pavlos Lazaridis (University of Huddersfield, United Kingdom); Sinan Khwandah (Southampton Solent University, United Kingdom)

A Pre-Emptive Traffic Model with Cluster-based TDMA for Vehicular Networks
Nyoman Wira Prasetya and Tsang-Ling Sheu (National Sun Yat-Sen University, Kaohsiung, Taiwan); Achmad Basuki and Muhammad Aziz Muslim (Brawijaya University, Malang, Indonesia)

Network Requirements for Latency-Critical Services in a Full Cloud Deployment
Stefan Höst, William Tärneberg, Per Ödling and Maria Kihl (Lund University, Sweden); Marco Savi and Massimo Tornatore (Politecnico di Milano, Italy)

A Quality Measurement Tool for High-Speed Data Transfer in Long Fat Networks
Ken T. Murata, Praphan Pavarangkoon, Kazunori Yamamoto and Yoshiaki Nagaya (National Institute of Information and Communications Technology, Japan); Takamichi Mizuhara and Ayahiro Takaki (CLEALINKTECHNOLOGY Co., Ltd., Japan); Kazuya Muranaga (Systems Engineering Consultants Co., Ltd., Japan); Eizen Kimura (Ehime University, Japan); Takatoshi Ikeda, Kaichiro Ikeda and Jin Tanaka (KDDI Corporation, Japan)

Offloading Decision Algorithm for 5G/HetNets Cloud RAN
Olfa Chabbouh, Sonia Ben Rejeb and Zied Choukair (SupCom, Tunisia); Nazim Agoulmine (University of Evry-Val-d'Essonne, France)

Friday, September 23, 09:00 - 10:30 (BRAČ)

S5: SIGNAL PROCESSING AND CODING II

Chair: Joško Radić (University of Split, Croatia)

Performance of Smart Antenna System Under Different SNR
Ashraf A. M. Khalaf, Abdel-Rahman B. M. El-Daly and Hesham F. A. Hamed (Minia University, Egypt)

Lowering the Error Floor of Short-to-Medium Length LDPC Codes using Optimal Low-Correlated-Edge Density (OED) PEG Tanner Graphs
Umar-Faruk Abdu-Aguye, Marcel Adrian Ambroze and Martin Tomlinson (Plymouth University, United Kingdom)

Genetic Algorithm Based Model for Capacitated Network Design Problem
Meriem Khelifi (Badji Mokhtar University, Algeria); Mohand Yazid Saidi and Saadi Boudjit (University of Paris 13, France)

A Testbed for Image Transmission over a Network Coded Cooperation System
Selahattin Gökceli, Semiha Tedik Başaran and Gunes Karabulut Kurt (Istanbul Technical University, Turkey)

Image Compression with Optimal Traversal using Wavelet and Percolation Theories
Rahma Gharsallaoui and Mohamed Hamdi (University of Carthage, Tunisia); Tai-Hoon Kim (Sungshin W. University, South Korea)

Analysis of Saliency Object Detection Algorithms for Search and Rescue Operations
Sven Gotovac and Vladan Papić (University of Split, Croatia); Željko Marušić (University of Mostar, Bosnia and Herzegovina)

Friday, September 23, 14:30 - 16:00 (HVAR)

S6: COGNITIVE RADIO SYSTEMS AND NETWORKS

Chair: Abdelhamid Mellouk (UPEC, University Paris-Est Creteil Val de Marne, France)

Reliability-Based Cooperative Spectrum Sensing Algorithm in Cognitive Radio Networks
Li Wang, Shibing Zhang and Lili Guo (Nantong University, P.R. China)

Blind Spectrum Sensing based Spatial Scanning and Maximum Energy Ratio
Kaïs Bouallegue, Iyad Dayoub and Mohamed Gharbi (IEMN-DOAE, France)

A Novel Cognitive MAC Layer Protocol Towards 5G Spectrum and Energy Efficiency
Afef Bohli and Ridha Bouallegue (University of Carthage, Tunisia)

Spectrum Prediction in Cognitive Radio Systems using a Wavelet Neural Network
Ashraf A. Eltholth (National Telecommunication Institute, Egypt)

Friday, September 23, 14:30 - 16:00 (VIS)

S7: MOBILE AND WIRELESS COMMUNICATIONS

Chair: Erich Leitgeb (Graz University of Technology, Austria)

Novel Maritime Channel Models for Millimeter Radiowaves
Niloofar Mehrnia and Mehmet Kemal Ozdemir (Istanbul Sehir University, Turkey)

Low-Complexity Pre and Post-FFT Channel Estimation Approach for UW MB-OFDM Based UWB Systems
Moufida Hajjaj (University of El-Manar, Tunisia); Walid Chainbi (Sousse University, Tunisia); Ridha Bouallegue, (University of Carthage, Tunisia)

The K-mi-g Random Variable and the K-mi-g Random Process
Dragana Krstić, Mihajlo Stefanović and Vesad Doljak (University of Niš, Serbia); Zoran Popović (Technical College of Vocational Studies, Zvecan, Serbia); Erich Leitgeb (Graz University of Technology, Austria)

On Minimization of Energy Consumption of Two-Way AF Relaying Systems with Imperfect CSI
Emna Ben Yahia (University Tunis El Manar, Tunisia); Noureddine Hamdi (University of Carthage, Tunisia)

Real options analysis for HetNet and WLAN based FiWi Access Networks Deployment
Damir Brešković (Ericsson Nikola Tesla, Croatia)

Friday, September 23, 15:30 - 16:30

P1: POSTER SESSION

Chair: Toni Perkovic (FESB, University of Split, Croatia)

Performance Characterization of a Novel DWDM All-Optical SDN-like Metro-Access Network
Tommaso Muciaccia and Vittorio M. N. Passaro (Politecnico of Bari, Italy)

Capturing Behavioral Changes of Elderly people through Unobtruisive Sensing Technologies
Luca Mainetti, Luigi Patrono and Piercosimo Rametta (University of Salento, Italy)

SYM1: SYMPOSIUM ON SMART ENVIRONMENT TECHNOLOGIES

Thursday, September 22, 10:00 - 11:30 (BRAČ)

SYM1/I: Symposium on Smart Environment Technologies I

Chairs: Mladen Russo (University of Split, Croatia), Maja Stella (University of Split, Croatia)

Indoor Monitoring: SensorNet Integration and Actuations for Energy Saving
Elisa Benetti, Stefania Nanni and Gianluca Mazzini (Lepida SpA, Italy)

An Accurate Ensemble-based Wireless Localization Strategy for Wireless Sensor Networks
Hanen Ahmadi (University of Carthage, Tunisia); Federico Viani and Alessandro Polo (University of Trento, Italy); Ridha Bouallegue (University of Carthage, Tunisia)

Re-OPSEC: Real time OPportunistic Scheduler framework for Energy aware mobile Crowdsensing
Salma Bradai, Sofien Khemakhem and Mohamed Jmaiel (University of Sfax, Tunisia)

Indoor Monitoring for Energy Consumptions in Public Buildings
Stefania Nanni, Elisa Benetti, Gianluca Mazzini (Lepida SpA, Italy)

Wearable Technologies for Smart Environments: A Review with Emphasis on BCI
Goran Udovičić, Ante Topić and Mladen Russo (University of Split, Croatia)

Thursday, September 22, 12:00 - 13:30 (BRAČ)

SYM1/II: Symposium on Smart Environment Technologies II

Chairs: Mladen Russo (University of Split, Croatia), Maja Stella (University of Split, Croatia)

Geographic Information System of Historic Core of Split
Marinko Hrgović, Marko Smoljo and Marjan Sikora (University of Split, Croatia)

Economical and Environmental Operation of Smart Networked Microgrids under Uncertainties Using NSGA-II
Zahra Pooranian (Sapienza University of Rome, Italy); Nima Nikmehr and Sajad Najafi-Ravadanegh (Azarbaijan Shahid Madani University, Iran); Hairulnizam Mahdin (University Tun Hussein Onn Malaysia, Malaysia); Jemal Abawajy (Deakin University, Australia)

A Variational Message Passing Algorithm For Cooperative Localization In Wireless Networks
Kaouther Hedhly, Mohamed Laaraiedh, Fatma Abdelkefi and Mohamed Siala (University of Carthage, Tunisia)

Compressive sensing for reconstruction of 3D point clouds in smart systems
Ivo Stancic (University of Split, Croatia); Milos Brajovic and Irena Orlovic (University of Montenegro, Montenegro); Josip Music (University of Split, Croatia)

Fall Detection Using Machine Learning Algorithms
Pranesh Vallabh and Reza Malekian (University of Pretoria, South Africa); Ning Ye (Nanjing University of Posts and Telecommunications, P.R. China); Dijana Capeska Bogatinoska (University of Information Science and Technology “St. Paul the Apostle”, Macedonia, the former Yugoslav Republic of)

SYM2: SYMPOSIUM ON GREEN NETWORKING AND COMPUTING

Thursday, September 22, 10:00 - 11:30 (HVAR)

SYM2/I: Symposium on Green Networking and Computing I

Chair: Josip Lorincz (University of Split, Croatia)

PDMDC: A Power Distribution Manager for Cloud Environment Data Centers
Fawaz AL-Hazemi (Korea Advanced Institute of Science and Technology, Korea)

Datacenters Powered by Renewable Energy: A Case Study for 60 Degrees Latitude North
Enida Sheme and Neki Frashëri (University of Tirana, Albania); Simon Holmbacka and Sébastien Lafond (Åbo Akademi University, Finland); Dražen Lučanin (University of Vienna, Austria)

SAND-Assisted Encoding Control for Energy-Aware MPEG-DASH Live Streaming
Mikko Uitto and Antti Heikkinen (VTT Technical Research Centre of Finland, Finland)

Energy-efficient Data Transfer: Bits vs. Atoms
Ivana Marincic and Ian Foster (University of Chicago, USA)

Thursday, September 22, 12:00 - 13:30 (HVAR)

SYM2/II: Symposium on Green Networking and Computing II

Chair: Josip Lorincz (University of Split, Croatia)

Energy Efficient Wireless In-Band Backhaul in Heterogeneous Networking Environments
Georgios Kyriazis and Angelos Rouskas (University of Piraeus, Greece)

Impact of Power Control on Network-Layer Stability in Cognitive Radio Systems
Yunsung Choi and Dongwoo Kim (Hanyang University, Korea)

Green Operator Cooperation for Radio Frequency Transmission Minimization
Lamis Amamou (ENIT & Sup'Com, Tunisia); Maissa Boujelben (Sup'Com & ESPRIT, Tunisia); Hakim Ghazzai (Qatar Mobility Innovations Center (QMIC), Qatar); Ammar Bouallegue (ENIT, Tunisia); Hichem Besbes (Sup'Com, Tunisia)

RLA-ENAR: A Realistic Near-Optimal Energy-Aware Routing
Ehsan Mohammadpour and Bahador Bakhshi (Amirkabir University of Technology, Iran)

Coupling Unit for Narrowband Power Line Communications Channel Measurement
Raja Alaya and Rabah Attia (University of Carthage, Tunisia)

SYM3: SYMPOSIUM ON ENVIRONMENTAL ELECTROMAGNETIC COMPATIBILITY

Friday, September 23, 16:30 - 18:00 (HVAR)

SYM3/I: Symposium on Environmental Electromagnetic Compatibility I

Chairs: Dragan Poljak (University of Split, Croatia), Vesna Roje (University of Split, Croatia)

Safety issues in Ground-Penetrating Radar and near-surface geophysical prospecting
Raffaele Persico (IBAM-CNR, Italy); Lara Pajewski ("Roma Tre" University of Rome, Italy)

Time Domain and Frequency Domain Integral Equation Method for the Analysis of Ground Penetrating Radar (GPR) Antenna
Anna Šušnjara, Dragan Poljak, Silvestar Šesnić and Vicko Dorić (University of Split, FESB, Croatia)

Improvement of GPR tracking by using inertial and GPS combined data
Simone Chicarella, Vincenzo Ferrara and Fabrizio Frezza (Sapienza University of Rome, Italy); Alessandro D'Alvano and Lara Pajewski ("Roma Tre" University, Italy)

Assessment of WiFi Radiation on Human Health
Marina Jurčević and Krešimir Malarić (University of Zagreb, Croatia)

Myelinated Nerve Fiber Antenna Model Activation
Ivana Zulim, Vicko Dorić and Dragan Poljak (University of Split, Croatia)

Estimation of Radio Signal Spatial Local Mean
Pamela Njemcevic (University of Sarajevo, Bosnia and Herzegovina); Vlatko Lipovac (University of Dubrovnik, Croatia)

Saturday, September 24, 09:00 - 10:30 (HVAR)

SYM3/II: Symposium on Environmental Electromagnetic Compatibility II

Chairs: Dragan Poljak (University of Split, Croatia), Vesna Roje (University of Split, Croatia)

On Some Applications of Stochastic Collocation Method in Computational Electromagnetics
Dragan Poljak, Silvestar Šesnić and Mario Cvetković (University of Split, Croatia); Sebastien Lallechere and Khalil El Khamlichi Drissi (Blaise Pascal University, France)

Interpolative Computation of Two Slot Dimensions in a Rectangular Microstrip Antenna Given the Mode Number and the Resonant Frequency
Miroslav Joler and Dora Hodanić (University of Rijeka, Croatia)

Lightning current derivatives approximation
Vesna Javor (University of Nis, Faculty of Electronic Engineering, Serbia)

Impulse Impedance of the Horizontal Grounding Electrode - Experimental Analysis versus Full-wave Computational Model
Tonko Garma, Silvestar Šesnić, Dragan Poljak and Mislav Blajić (University of Split, Croatia)

Comparison of Generalized Telegrapher Equations Approach and Circuit Model for Wireless Power Transfer
Zoran Blažević, Maja Škiljo and Dragan Poljak (University of Split, Croatia)

SS: SPECIAL SESSIONS

Friday, September 23, 09:00 - 10:30 (HVAR)

SS1: Special Session on RFID Technologies and Internet of Things

Chair: Luigi Patrono (University of Salento, Italy)

AMBER: an advanced gateway solution to support heterogeneous IoT technologies
Egidio Gioia (Arrow Electronics Inc., Italy); Pierluigi Passaro (Phoenixsoftware, Italy); Matteo Petracca (Scuola Superiore Sant'Anna, Italy)

On MAC Layer protocols towards internet of things: From IEEE802.15.4 to IEEE802.15.4e
Sahar Ben Yaala and Ridha Bouallegue (University of Carthage, Tunisia)

A Resource Allocation Strategy for Cooperative Multi-Relay Cognitive Radio Networks
Xin Guo, Xiaoge Zhang, Shibing Zhang and Zhihua Bao (Nantong University, China)

Friday, September 23, 14:30 - 16:00 (BRAČ)

SS2: Special Session on Ad-Hoc and Sensor Networks

Chair: Luigi Patrono (University of Salento, Italy)

A Packet Traversal Time per Hop based Adaptive Wormhole Detection Algorithm for MANETs
Jonny Karlsson and Göran Pulkkis (Arcada University of Applied Sciences, Finland); Laurence S. Dooley (The Open University, United Kingdom)

A Centralized TDMA based Scheduling Algorithm for Real-Time Communications in Vehicular Ad Hoc Networks
Mohamed Hadded (Telecom SudParis, France); Paul Muhlethaler (INRIA, France); Anis Laouiti (Telecom SudParis, France); Leila Azouz Saidane (University of Manouba, Tunisia)

Optimizing End-to-End Propagation Delays in Hybrid Satellite-Maritime Mobile Ad Hoc Networks
Achraf Kessab (Telecom Paristech & Thales Communications & Security, France); Lina Mroueh (Institut Supérieur d'Electronique de Paris, France); Philippe Martins (Telecom ParisTech, France); Isabelle Bucaille (Thales Communications & Security, France)

Efficient Polling Point Determination and Physical Model based Throughput Maximisation in Wireless Sensor Network
Nimisha Ghosh, Riddhiman Sett and Indrajit Banerjee (Indian Institute of Engineering Science and Technology, Shibpur, India)

Distributed Fuzzy Logic Based Routing Protocol for Wireless Sensor Networks
Asma Messaoudi (University of Tunis El Manar, Tunisia); Rabiaa Elkamel (University of Carthage, Tunisia); Abdelhamid Helali (Science Faculty of Monastir, Tunisia); Ridha Bouallegue (University of Tunis El Manar, Tunisia)

One Class Outlier Detection Method in Wireless Sensors Network:Comparative Study
Oussama Ghorbel, Abdulfattah M. Obeid and Mohamed Abid (University of Sfax, Tunisia); Hichem Snoussi (University of Technology of Troyes, France)

Friday, September 23, 16:30 - 18:00 (BRAČ)

SS3: Special session on QoS in Wired and Wireless Networks

Chair: Pascal Lorenz (University of Haute Alsace, France)

Spectrum Resource Block Reuse and Power Assignment for D2D Communications Underlay 5G Uplink Network
Zeineb Guizani (University of Tunis El Manar, Tunisia); Noureddine Hamdi (University of Carthage, Tunisia)

Evaluation of network solutions for improving WebRTC quality
Ewa Janczukowicz, Arnaud Braud and Stephane Tuffin (Orange Labs, France); Ahmed Bouabdallah and Jean-Marie Bonnin (Institut Mines-Telecom - Telecom Bretagne, France)

Saturday, September 24, 09:00 - 10:30 (BRAČ)

SS4: Special Session on Security and Digital Forensics

Chair: Toni Perkovic (FESB, University of Split, Croatia)

Automatic Source Code Decomposition for Privilege Separation
Markus Trapp, Michael Rossberg and Guenter Schaefer (Technische Universität Ilmenau, Germany)

NFV Security Considerations for Cloud-Based Mobile Virtual Network Operators
Mehrnoosh Monshizadeh and Vikramajeet Khatri (Nokia Networks, Finland); Andrei Gurtov (Linkoping University, Sweden)

SnoopyBot: An Android spyware to bridge the mixes in Tor
Evangelos Mitakidis, Dimitrios Taketzis, Alexandros Fakis and Georgios Kambourakis (University of the Aegean, Greece)

Analysis of the IP Telephony Security Issues Using Automatic Neural Network Classifier
Filip Rezac, Jan Rozhon, Jakub Safarik and Miroslav Voznak (CESNET, Czech Republic); Zuzana Bajakova (VSB Technical University of Ostrava, Czech Republic)

Thursday, September 22, 15:00-16:30 (VIS)

PhD Forum

The PhD Forum provides an opportunity for **PhD students to present their work** in the areas of ICT related to the **SoftCOM 2016 conference topics** to a **wider community of researchers** from **academia and industry**. The forum aims to encourage interaction and networking among PhD students, as well as the audience.

The PhD Forum has been organized as a **poster session**, preceded by a **fast-paced introduction** by each student, offering a preview of the posters. Each student has a strictly-timed **2-minutes**' slot to present a "pitch talk" about their research. The purpose of the pitch talk is to provide a brief outline of one's doctoral research work, with the goal to raise awareness and generate further discussion over the poster session and coffee break that follow.

I-codes and flashing display: User-friendly method for secure wireless sensor network bootsrapping
Tonko Kovacevic (University of Split, Croatia)

Extended Abstract: Energy-efficient Mobile Crowd Sensing for the Internet of Things
Martina Marjanovic and Ivana Podnar Zarko (University of Zagreb, Croatia)

3D model reconstruction using multiple images
Krešimir Vdovjak (University of Split, Croatia)

Generation and Reconstruction of Trigger Signals from High Granularity Calorimeter
Marina Prvan (University of Split, Croatia)

Towards Cooperative QoE Management Schemes for Multimedia Application
Irena Orsolic; Lea Skorin-Kapov (University of Zagreb, Croatia)

Staircase Detection in Camera-Based Assistance Systems for the Blind
Krešimir Romić (University of Osijek, Croatia)

Cross-Layer Multi-Channel Algorithm for QoS enhancement in WSANs
Goran Horvat; Drago Zagar (University of Osijek, Croatia)

QoE optimization for cloud gaming based on video encoding adaptation strategies
Ivan Slivar; Lea Skorin-Kapov (University of Zagreb, Croatia)

Cost-driven Optimization of Cloud Service Placement Based On Service Resource Usage Profile
Ivana Stupar (University of Zagreb, Croatia)

Steering committee:

Dinko Begušić, University of Split
Tihana Galinac Grbac, University of Rijeka
Darko Huljenić, Ericsson Nikola Tesla
Maja Matijašević, University of Zagreb
Drago Žagar, Josip Juraj Strossmayer University of Osijek

Program & Organizing Committee:

Ognjen Dobrijević, University of Zagreb
Krešimir Grgić, Josip Juraj Strossmayer University of Osijek
Goran Mauša, University of Rijeka
Snježana Rimac-Drlje, Josip Juraj Strossmayer University of Osijek
Petar Šolić, University of Split

TIMETABLE A: TECHNICAL PROGRAM, WORKSHOPS

Hotel Radisson Blu, Split, Thursday, September 22			
Time/Hall	**BRAČ**	**HVAR**	**VIS**
09:00	REGISTRATION*		
10:00–11:30	SYM1/I: Symposium on Smart Environment Technologies I	SYM2/I: Symposium on Green Networking and Computing I	S1: Education and Information Systems
11:30–12:00	Coffee Break		
12:00–13:30	SYM1/II: Symposium on Smart Environment Technologies II	SYM2/II: Symposium on Green Networking and Computing II	S2: Network Operations and Management
13:30–15:00	**Lunch**		
15:00–16:30	S3: Signal Processing and Coding I	S4: QoS and Resource Management	PhD Forum
17:00–19:00	**Guided Tour in Split**		

Hotel Radisson Blu, Split, Friday, September 23			
Time/Hall	**BRAČ**	**HVAR**	**VIS**
09:00–10:30	S5: Signal Processing and Coding II	SS1: Special Session on RFID Technologies and Internet of Things	WICT/I: Workshop on Information and Communication Technologies I
10:30–11:00	Coffee Break		
11:00–12:30	**OPENING CEREMONY (GRAND BALLROOM)**		
	Keynote Speech (GRAND BALLROOM): **Sandor Albrecht (Ericsson Research),** *LOOOM: Defining Control Systems for 5G*		
12:30–14:30	**Conference Luncheon**		
14:30–16:00	SS2: Special Session on Ad-Hoc and Sensor Networks	S6: Cognitive Radio Systems and Networks	S7: Mobile and Wireless Communications
16:00–16:30	Coffee Break**		
16:30–18:00	SS3: Special Session on QoS in Wired and Wireless Networks	SYM3/I: Symposium on Environmental Electromagnetic Compatibility I	WICT/II: Workshop on Information and Communication Technologies II
18:15	**Bus Transfer to Port of Split**		
18:30- 21:00	**Welcome Party in Split**		

Hotel Radisson Blu, Split, Saturday, September 24			
Time/Hall	**BRAČ**	**HVAR**	**VIS**
09:00–10:30	SS4: Special Session on Security and Digital Forensics	SYM3/II: Symposium on Environmental Electromagnetic Compatibility II	WICT/III: Workshop on Information and Communication Technologies III
10:30–11:00	Coffee Break		
11:00–12:00	**Invited Talk (BRAČ):** **Abdelhamid Mellouk (University of Paris-Est Créteil, France),** *Convergence technologies based on quality of experience and quality of service paradigms*		
12:00–13:00	**Lunch**		
13:00–18:00	**Conference Trip**		

* Registration: Thursday (09:00 – 13:30), (15:00 – 18:30), Friday (08:00 – 11:00), (14:30 – 18:00), Saturday (08:00 – 12:00)
** Poster Session: Friday (15:30 – 16:30)

TIMETABLE B: WORKSHOPS, TUTORIALS, BUSINESS FORUM, MEETINGS

Hotel Radisson Blu, Split, Thursday, September 22		
Time/Hall	**KORČULA**	**ŠOLTA**
09:00	REGISTRATION*	
10:00–11:30	Tutorial T6/I (I. Slapnicar) Julia – a high-level, high-performance dynamic programming language	DS: Ground Penetrating Radar Prototypes Developed in Cost Action TU1208
11:30–12:00	Coffee Break	
12:00–13:30	Tutorial T6/II (I. Slapnicar) Julia – a high-level, high-performance dynamic programming language	Tutorial T1 (M. Joler) *Modern Design of Multiband Antennas for Mobile devices*
13:30–15:00	**Lunch**	
15:00–16:30	WESC: Ericsson Summer Camp 2016 Workshop	Tutorial T2 (P. Lorenz) *Architectures of Next Generation Wireless Networks*
17:00–19:00	**Guided Tour in Split**	

Hotel Radisson Blu, Split, Friday, September 23			
Time/Hall	**KORČULA**		**ŠOLTA**
09:00–10:30	WIICT: Workshop on Innovation in ICT		Tutorial T3 (F. Canavero) *Uncertainty Quantification in Electromagnetics*
10:30–11:00	Coffee Break		
11:00–12:30	**OPENING CEREMONY (GRAND BALLROOM)**		
	Keynote Speech (GRAND BALLROOM): **Sandor Albrecht (Ericsson Research),** *LOOOM: Defining Control Systems for 5G*		
12:30–14:30	**Conference Luncheon**		
14:30–16:00	WSEP: Workshop on Software Engineering in Practice (D. Huljenic, Ericsson NT) **(KORČULA)**	RT1: Round Table on Broadband Internet Access **(ŠOLTA)**	Tutorial T4 (L. Pajewski) *Electromagnetic-modelling techniques for Ground Penetrating Radar* **(MLJET)**
16:00–16:30	Coffee Break**		
16:30–18:00	RT2: Round table on entrepreneurship in ICT		BF/I (Darko Giljevic, NSN): *Internet Of Things (IOT) - Nokia vision*
18:15	**Bus Transfer to Port of Split**		
18:30- 21:00	**Welcome Party in Split**		

Hotel Radisson Blu, Split, Saturday, September 24		
Time/Hall	**KORČULA**	**HVAR**
09:00–10:30	BF/II: Business Forum Presentation	Tutorial T5 (D. Poljak) *Computational Models in Electromagnetic Compatibility, Bioelectromagnetics and Magnetohydrodynamics* **(8:30 – 09:15)**
10:30–11:00	Coffee Break	
11:00–12:00	**Invited Talk (BRAČ):** **Abdelhamid Mellouk (University of Paris-Est Créteil, France),** *Convergence technologies based on quality of experience and quality of service paradigms*	
12:00–13:00	**Lunch**	
13:00–18:00	**Conference Trip**	

* Registration: Thursday (09:00 – 13:30), (15:00 – 18:30), Friday (08:00 – 11:00), (14:30 – 18:00), Saturday (08:00 – 12:00)
** Poster Session: Friday (15:30 – 16:30)

WICT: WORKSHOP ON INFORMATION AND COMMUNICATION TECHNOLOGIES

Friday, September 23, 09:00 - 10:30 (VIS)

WICT/I: Workshop on Information and Communication Technologies I

Chair: Julije Ozegovic (University of Split, Croatia)

Implementation of an Efficient SMS Gateway Service
Chiara Taddia and Gianluca Mazzini (Lepida SpA, Italy)

A Full IP VoIP Architecture: the Lepida Case Study
Chiara Taddia and Gianluca Mazzini (Lepida SpA, Italy)

Big Data Over SmartGrid - A Fog Computing Perspective
Paola G. Vinueza Naranjo (Sapienza University of Rome, Italy); Mohammad Shojafar (University of Modena and Reggio Emilia, Italy); Leticia Vaca-Cardenas (University of Calabria, Cosenza, Italy); Claudia Canali and Riccardo Lancellotti (University of Modena and Reggio Emilia, Italy); Enzo Baccarelli (Sapienza University of Rome, Italy)

Usability Analysis of Gesture Based User Interfaces
Željka Car, Marin Vuković, Sven Njegač, Mislav Ivandić, Matej Lipovac and Luka Šonjić (University of Zagreb, Croatia)

Analysis of Using Visualization in Teaching Computer Networks
Marina Prvan (University of Split, Croatia)

Friday, September 23, 16:30-18:00 (VIS)

WICT/II: Workshop on Information and Communication Technologies II

Chair: Matko Saric (University of Split, Croatia)

Measurement and the estimate of exposure to electromagnetic fields frequencies between 2110 MHz and 2170 MHz
Marin Galić (Centar za mjerenja u okolišu, Croatia)

Virtualized WMN based mobile backhaul
Kari Seppänen (VTT Technical Research Centre of Finland, Finland)

Ground Penetrating Radar prototypes developed in COST Action TU1208
Lara Pajewski ("Roma Tre" University of Rome, Italy); Raffaele Persico (IBAM-CNR, Italy); Simone Chicarella, Vincenzo Ferrara, Fabrizio Frezza and Filippo Troiani (Sapienza University of Rome, Italy)

Daily throughput and energy efficiency analysis of campus WLAN
Josip Lorincz (University of Split, Croatia); Eldis Mujaric (CARNET, Croatia); Dinko Begusic (University of Split, Croatia)

The influence of the fiber length and coding technique on the signal quality in Broadband Passive Optical Network
Katarina Radoš (University of Split, Croatia)

Saturday, September 24, 09:00-10:30 (VIS)

WICT/III: Workshop on Information and Communication Technologies III

Chair: Maja Škiljo (University of Split, Croatia)

Software Development for Configuration of TSS Gateway Controller (TGC)
Lovre Šušnjara (University of Split, Croatia); Marin Ercegović (Ericsson Nikola Tesla, Croatia)

AXE node alarm monitoring and statistics
Matea Colak (University of Split, Croatia); Ante Mrkonjic (Ericsson Nikola Tesla, Croatia)

Network node characteristics analytics and visualization
Jelena Čulić (Ericsson Nikola Tesla, Croatia)

New approach in mobile telecom operators analysis - "Analysis of Eight Key Fields"
Igor Jurčić (J.P. Hrvatske telekomunikacije d.d., Mostar, Bosnia and Herzegovina); Sven Gotovac (University of Split, Croatia)

Miroslav Joler, PhD
University of Rijeka, Croatia

Modern Design of Multiband Antennas for Mobile

Abstract: Modern antennas for mobile devices, especially mobile phones, must support multiple wireless services that are transmitted over different frequency bands (e.g. GSM, UMTS, LTE-A, Bluetooth, Wi-Fi, GPS). Although a particular antenna is based on some of the common canonical antenna designs, canonical designs do not often meet the multiband specs that are sought in modern antennas and antenna engineers must resort to creative noncanonical designs that will then achieve their goals. This tutorial will make an overview of the essential theory encompassing microstrip antenna design (as the most popular choice) and discuss innovative solutions in meeting the multiband characteristics of novel antenna designs. The tutorial comprises four parts as described next. The **first part** will contain an essential microstrip antenna theory. We will review the microstrip antenna concept and structure of common types of microstrip antennas, including a brief discussion on common types of feed. The **second part** will focus on the design aspects of one of the most popular choices - a rectangular microstrip antenna. The geometry and most popular feed types will be reviewed first, followed by the analytical models that provide satisfactory solutions. Lastly, the notion of the modes of operation and the corresponding resonant frequencies will be introduced. The **third part** will cover antenna design aspects by means of computer-aided design. Electromagnetic modeling features using one of the commercial EM CAD tools will be presented and then implemented on a few designs of microstrip antennas. For the canonical design case, we will compare the analytical and numerical solution, while for the noncanonical cases, we will pay attention to the powerful features provided by the modern CAD tools (such as structure design tuning, parameter sweep- or optimization- option). In the **last part**, we will show examples of various multiband antenna designs and interpret the approaches used in them to achieve the design goals. Use of slots in the patch geometry is one of the modern techniques to create multi-resonance behavior of the microstrip antenna and we will discuss the effects of the slot geometry on the antenna resonant frequencies. Moreover, use of shorting pins and diodes, as additional instruments in the modern antenna design, will be illustrated. Lastly, we will show the results of a recent investigation of interpolative computation of the slot dimensions of a rectangular microstrip antenna, that avoids a direct usage of a full-wave EM code, based on a predefined number of reference data samples that were acquired in advance on a reference antenna model.

Biography: *Miroslav Joler received his B.S. degree in electrical engineering from the University of Zagreb, Croatia, in 1996, and his M.S. and Ph.D. degrees in electrical engineering from the University of New Mexico, NM, USA, in 2001 and 2006, respectively. In 2006, he was a postdoctoral research associate at Portland State University, OR, USA, at the Department of Electrical and Computer Engineering and the Department of Physics. In 2007, Dr. Joler joined the Faculty of Engineering of the University of Rijeka, Croatia, as Assistant Professor. In 2008, he also worked as an Adjunct Assistant Professor with the Faculty of Maritime Studies of the University of Rijeka. Since 2013, Dr. Joler is Associate Professor at the University of Rijeka, Croatia. Since 2008, he has served as the Wireless Communications Lab Director, the Head of the Communications Systems Group, and/or the Chair of the Department of Computer Engineering at the University of Rijeka, Faculty of Engineering. He has been a researcher in multiple research projects and his industry experience includes working as an RF engineer with the Transmitters and Links Division of Croatian Radiotelevision from 1996 to 1999, on terrain coverage analysis, network planning, and design of new broadcast antenna systems. He has authored or coauthored papers in distinguished journals and conferences and has been a reviewer for various journals and conference events (IEEE AP-S, ACES, EuCAP) and has served as a session (co)chair at various international conferences (ICEAA, ICECom, IEEE AP-S/URSI). He has also served as a proposal or annual report evaluator for the Ministry of Science, Education, and Sports of Croatia and Croatian Science Foundation. Since 2013, he has been an Editorial Board Member for the Open Journal of Antennas and Propagation of Scientific Research Publishing (SCIRP). Dr. Joler is a member of the IEEE Antennas and Propagation-, Microwave Theory and Techniques-, and Communications- Society and was a student member of Directed Energy Professional Society. He received the University of New Mexico Graduate Office's Research, Proposal, and Travel Award in 2001. His current research interests include adaptive antennas, biomedical applications of electromagnetics, wearable and implantable devices, and self-recoverable systems.*

TUTORIAL T2

Thursday, September 22
15:00-16:30 (ŠOLTA)

Pascal Lorenz, PhD
University of Haute Alsace, France

Architectures of Next Generation Wireless Networks

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 revenu. This tutorial covers to the issues of QoS provisioning in heterogeneous networks and Internet access over future wireless networks. 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 (lorenz@ieee.org) received his M.Sc. (1990) and Ph.D. (1994) 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, France, since 1995. His research interests include QoS, wireless networks and high-speed networks. He is the author/co-author of 3 books, 3 patents and 200 international publications in refereed journals and conferences. He was Technical Editor of the IEEE Communications Magazine Editorial Board (2000-2006), Chair of Vertical Issues in Communication Systems Technical Committee Cluster (2008-2009), Chair of the Communications Systems Integration and Modeling Technical Committee (2003-2009), Chair of the Communications Software Technical Committee (2008-2010) and Chair of the Technical Committee on Information Infrastructure and Networking (2016-2017). He has served as Co-Program Chair of IEEE WCNC'2012 and ICC'2004, Executive Vice-Chair of ICC'2017, tutorial chair of VTC'2013 Spring and WCNC'2010, track chair of PIMRC'2012, symposium Co-Chair at Globecom 2007-2011, ICC 2008-2010, ICC'2014 and '2016. He has served as Co-Guest Editor for special issues of IEEE Communications Magazine, Networks Magazine, Wireless Communications Magazine, Telecommunications Systems and LNCS. He is associate Editor for International Journal of Communication Systems (IJCS-Wiley), Journal on Security and Communication Networks (SCN-Wiley) and International Journal of Business Data Communications and Networking, Journal of Network and Computer Applications (JNCA-Elsevier). He is senior member of the IEEE, IARIA fellow and member of many international program committees. He has organized many conferences, chaired several technical sessions and gave tutorials at major international conferences. He was IEEE ComSoc Distinguished Lecturer Tour during 2013-2014.*

TUTORIAL T3

Friday, September 23
09:00-10:30 (ŠOLTA)

Flavio Canavero, PhD
Politecnico di Torino, Italy

Uncertainty Quantification in Electromagnetics

Abstract: The deterministic prediction of microwave and electronic circuits and devices is nowadays insufficient, since uncertainties always exist in reality. These uncertainties cause the system variables to deviate from their nominal values, thus making the deterministic results unsuitable for the development of high-performance electronic products due to the urging necessity to perform right-the-first-time designs. Stochastic analysis is extremely useful in the early design phase for the prediction of the system performance and for setting realistic margins whenever manufacturing tolerances or uncertainties on design parameters cannot be neglected. With the scope of developing efficient design tools, outperforming classical but time-consuming sampling-based techniques like Monte Carlo, new techniques have been proposed. The presentation will provide a summary of techniques belonging to the two broad classes (intrusive and non-intrusive) of Uncertainty Quantification and will discuss very recent advances developed with the aim of addressing the problem of the curse of dimensionality. The theoretical framework will be complemented by simple examples related to Electromagnetics, Microwaves and EMC to illustrate the feasibility and the interest of uncertainty approaches in real applications.

Biography: *Flavio G. Canavero received his electronic engineering degree from Politecnico (Technical University) of Torino, Italy, and the PhD degree from the Georgia Institute of Technology, Atlanta, USA, in 1986. Currently he is a Professor of Circuit Theory with the Department of Electronics and Telecommunications, Politecnico di Torino, where he serves also as the Director of the Doctoral School. He is an IEEE Fellow. He has been the Editor-in-Chief of IEEE Transactions on Electromagnetic Compatibility, V.P. for Communication Services of the EMC Society and Chair of URSI Commission E. He received several Industry and IEEE Awards, including the prestigious Richard R. Stoddard Award for Outstanding Performance, which is the EMC Society's highest technical award. His research interests include signal integrity and EMC design issues, interconnect modeling, black-box characterization of digital integrated circuits, EMI and statistics in EMC.*

TUTORIAL T4

Friday, September 23
14:30-16:00 (MLJET)

Lara Pajewski, PhD
"Roma Tre" University, Rome, Italy

Electromagnetic-modelling techniques for Ground Penetrating Radar

Abstract: Ground Penetrating Radar (GPR) is a safe, effective, non-destructive and non-invasive inspection technique, providing high resolution images of subsurface and structures through wide-band electromagnetic waves. GPR radargrams often have no resemblance to the scenario over which the profile was recorded. Various factors, including the innate design of the survey equipment and the complexity of electromagnetic propagation in the ground/structure, can disguise how structures get recorded on GPR reflection profiles. In this context, electromagnetic-modelling techniques are of paramount importance. They can be employed to aid the interpretation of experimental datasets, highlight capabilities and limitations of GPR, and to understand where and in what environments this inspection method can be effectively used. Electromagnetic simulations can support the choice of the most proper GPR equipment for a survey and are useful to design and optimise new GPR antennas. Synthetic radargrams can be specifically conceived to test new data-processing/imaging algorithms or assess the effectiveness of existing ones. Finally, a fast and accurate electromagnetic forward solver can be embedded in an inverse electromagnetic solver and be used for automatic interpretation of data. This Tutorial is composed of four parts. In the **first part**, an overview on the European research on GPR and its applications is provided. Four main research areas can be identified: (i) The design and realisation of novel GPR systems and antennas; (ii) The use of GPR for a plethora of different tasks in civil and environmental engineering, geology, archaeology, management of water resources, planetary exploration, forensics, security and more; (iii) The development of electromagnetic-modelling, imaging, inversion and data-processing techniques; (iv) The integration of GPR with complementary non-destructive testing (NDT) methods. In the **second part**, a quick perspective on available electromagnetic-modelling techniques for GPR is given. In order to predict correctly the GPR response to a given scenarios, Maxwell's equations have to be solved, subject to the physical and geometrical properties of the considered problem and to its initial conditions. As is well known, several approaches have been developed in computational electromagnetics, for the solution of Maxwell's equations. These can be classified into two main categories: differential and integral equation solvers, which can be implemented in the time or frequency domain. Differential solvers include, inter alia, the Finite-Difference Time-Domain (FDTD) and Finite-Volume Time-Domain techniques, the Finite-Element and Transmission-Line Methods, and the Cylindrical- and Spherical-Wave Approaches. The Method of Moments is an established integral-equation approach. All of the different techniques present compromises between computational efficiency, stability, and the ability to model complex geometries. Commercial simulators implementing these techniques are very often used, but interesting freeware alternatives exist: during this part of the tutorial, information is also provided about reliable tools available on the web free of charge. The **third part** of the tutorial is focused on introducing gprMax and E2GPR. gprMax is a freeware FDTD simulator implemented in The University of Edinburgh (United Kingdom). A new version based on Python has been recently released, which includes noteworthy advanced functionalities such as the possibility to include in the model objects with inhomogeneous dielectric properties and rough surfaces, as well as anisotropic or frequency-dispersive materials (following multi-pole Debye, Lorenz or Drude formulations); built-in libraries of antenna models are also available. E2GPR is a freeware tool developed in Roma Tre University (Italy) to assist in the creation of two-dimensional gprMax models through a Computer-Aided Design system, ease parallel/distributed computing with gprMax and plot the results. Both tools represent a contribution to COST Action TU1208 "Civil engineering applications of Ground Penetrating Radar." Notwithstanding they are conceived to allow electromagnetic modelling of GPR scenarios, they can be employed to compute numerical solutions to any electromagnetic radiation and scattering problems. During the **fourth and last part** of the Tutorial, the TU1208 database of GPR data is presented. This is a collection of experimental and synthetic radargrams obtained in the presence of manmade and natural structures, at the disposal of the scientific community. Aim of this initiative is to give researchers the opportunity of testing and validating, against reliable data, their electromagnetic forward- and inverse-scattering techniques, imaging methods and data-processing algorithms.

Biography: *Lara Pajewski (lara.pajewski@uniroma3.it) is a researcher in the Engineering Department of "Roma Tre" University, Rome, Italy. She is the Chair of COST Action TU1208 "Civil engineering applications of Ground Penetrating Radar" (www.GPRadar.eu). She is an electronic engineer with a PhD in applied electromagnetics and electrophysics sciences earned in "Sapienza" University, Rome, Italy. Her current research interests include GPR and its applications, NDT methods, electromagnetic modelling of complex scenarios, design and characterisation of antennas and metamaterials. She is the Western-Europe Regional Editor for the Taylor&Francis Journal "Nondestructive Testing And Evaluation," since 2011 convenes the Session "Civil Engineering Applications of GPR" at the EGU General Assembly and in 2014 was co-Chair of the 15th International Conference on Ground Penetrating Radar. She is the (co-)author of more than 200 scientific works on books, journals, and conference proceedings and the editor of 15 books and journal special issues.*

TUTORIAL T5

Saturday, September 24
8:30-09:15 (HVAR)

Dragan Poljak, PhD
University of Split, FESB Split, Croatia

Computational Models in Electromagnetic Compatibility, Bioelectromagnetics and Magnetohydrodynamics

Abstract: The presentation starts with some general aspects of computational electromagnetics and electromagnetic compatibility (EMC). The introduction outlines some commonly used analytical and numerical methods. First, a crash-course on the theory of thin wire antennas and related numerical methods for solving the related integral equations in both frequency and time domain will be discussed. Applications pertaining to dipoles, Yagi-Uda arrays and logarithmic-periodic dipole antennas (LPDA) will be given and followed with some illustrative computational examples. Applications pertaining to air trafic control and ground penetrating radar (GPR) are of particular interest. Furthermore, full wave (antenna) models for various thin wire structures, from rather simple to realistic complex geometries, will be presented. This will be followed by studies of overhead and buried transmission lines, respectively, which will be carried out using both rigorous full wave models and approximate transmission line (TL) approach. Particular attention will be focused to the study of PLC (Power Line Communications) configurations and modeling of lightning channel. The transient analysis of realistic grounding systems, with particular emphasis to wind turbines, will be undertaken, as well. Then Tutorial will also deal with human exposure to non-ionizing electromagnetic fields. Low frequency, high frequency and transient exposures related to possible adverse health effects will be outlined. Some biomedical application of electromagnetic fields, with particular emphasis on transcranial magnetic stimulation (TMS) and nerve fiber stimulation, will be covered, as well. Furthermore some stochastic analysis methods applied to area of GPR and human exposure to electromagnetic fields will be presented. The presentation will end up with some topics in magnetohydrodynamics pertaining to the modeling of fusion related phenomena.

Biography: *Dragan Poljak was born on 10 October 1965. He received his BSc in 1990, his MSc in 1994 and PhD in electrical engineering in 1996 from the University of Split, Croatia. He is the Full Professor at Department of Electronics, Faculty of electrical engineering, mechanical engineering and naval architecture at the University of Split, and he is also Adjunct Professor at Wessex Institute of Technology. His research interests include frequency and time domain computational methods in electromagnetics, particularly in the numerical modelling of wire antenna structures, and numerical modelling applied to environmental aspects of electromagnetic fields. To date Professor Poljak has published nearly 200 journal and conference papers in the area of computational electromagnetics, seven authored books and one edited book, by WIT Press, Southampton-Boston., and one book by Wiley, New Jersey. Professor Poljak is a member of IEEE, a member of the Editorial Board of the journal Engineering Analysis with Boundary Elements, and co-chairman of many WIT International Conferences. He is also editor of the WIT Press Series Advances in Electrical Engineering and Electromagnetics. In June 2004, professor Poljak was awarded by the National Prize for Science. In 2013 he was awarded by the Nikola Tesla Prize for achievements in Technical Sciences. From 2011 to 2015 professor Poljak was the Vice-dean for research at the Faculty of electrical engineering, mechanical engineering and naval architecture. In 2011 professor Poljak became a member of WIT Bord of Directors. In June 2013 professor Poljak became a member of the board of the Croatian Science Foundation.*

TUTORIAL T6

Thursday, September 22
10:00-13:30 (KORČULA)

Ivan Slapnicar, PhD
University of Split, FESB Split, Croatia

Julia – a high-level, high-performance dynamic programming language

Abstract: Julia is a high-level, high-performance dynamic programming language for technical computing, with syntax that is familiar to users of other technical computing environments. It provides a sophisticated compiler, distributed parallel execution, numerical accuracy, and an extensive mathematical function library. Julia's Base library, largely written in Julia itself, also integrates mature, best-of-breed open source C and Fortran libraries for linear algebra, random number generation, signal processing, and string processing. In addition, the Julia developer community is contributing more than 1000 external packages through Julia's built-in package manager at a rapid pace. IJulia, a collaboration between the Jupyter and Julia communities, provides a powerful browser-based graphical notebook interface to Julia. Julia programs are organized around multiple dispatch; by defining functions and overloading them for different combinations of argument types, which can also be user-defined." (from http://julialang.org) In this tutorial we will cover basics of Julia principles and usage and, time permitting, few advanced application examples. Notebooks for tutorial are available at https://github.com/ivanslapnicar/Julia-Course.

Biography: *Ivan Slapnicar was born on 13 July 1961. He received his BSc in 1984, his MSc in 1988 in Mathematics from the University of Zagreb, Croatia, and PhD (dr. rer. nat.) in Mathematics in 1992 from the Fernuniversität Hagen, Germany, with summa cum laude. He is Professor and Head of the Chair for Mathematics at the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture at the University of Split. His research interests include linear algebra, numerical linear algebra and applications.*

Professor Slapnicar was Visiting Professor at the Utah State University in 2001/02, Visiting Researcher at TU Berlin with the FP7 People "Marie Curie" Intra-European Fellowship in 2009/10, and Fulbright-Schuman International Educator/Lecturer at MIT in 2014, where he worked closely with the Julia group. In June 2016 he taught GIAN Course "Modern Applications of Numerical Linear Algebra" at IIT Indore, India, which was entirely prepared in Julia. To date Professor Slapnicar has published more than 20 journal papers in the area of opertor theory, linear algebra, numerical linear algebra and applications and was PI in several national scientific grants.

BUSINESS FORUM

Friday, September 23, 2016, 16:30 -18:00 (ŠOLTA)

BF/I: INTERNET OF THINGS (IOT) - NOKIA VISION

Abstract: Creating the Internet of Things (IoT) will be the next big thing for the mobile ecosystem, especially for application areas such as automotive, homes, cities and energy. The programmable world that Nokia is helping to build requires new kinds of connectivity and a higher level of security.

Today - the most common services provided by mobile operators include point-to-point personal communication and (best effort) data services. These services will evolve to improve both in quality as well as in capability. Personal communication will include high quality IP multimedia and rich group communication as a baseline. Data services on the other hand, will be possible from multiple integrated access technologies and be ubiquitous and characterized by performance consistency. Data traffic will be dominated by video and social media.

New services will emerge which may cover new market segments such as automated industries and smart user environments, public safety and mission critical services, big data, proximity and geo-community services, and many others.

Darko Giljevic ***g****raduated at Faculty for Electrotechnical engineering and Computing in Zagreb in 1998. Started business career at Pliva pharmaceutical company as an engineer for computer networks. Shifting to Siemens in 2000. as a project leader in mobile networks R&D. Since 2005. working with Customer operations for telekom operators. With joining Nokia and Siemens into new company NSN in 2008. working as Account Manager with responsibility for local and telekom clients in the region*

Thursday, September 22, 10:00 – 11:30 (ŠOLTA)

DEMONSTRATION SESSION: GROUND PENETRATING RADAR PROTOTYPES DEVELOPED IN COST ACTION TU1208

In this contribution, two prototypes of Ground Penetrating Radar (GPR) are presented, developed in the framework of COST action TU1208 “Civil engineering applications of Ground Penetrating Radar.” The first prototype is a reconfigurable stepped-frequency GPR: the original version of this system was designed and implemented in 2008 and represented an outcome of the Italian research project Aitech. During the Action’s lifetime, the prototype has been improved and widely tested. Particular care has been taken to develop a technique for the reconfigurability of the integration time of the harmonic tones. The second prototype is a Frequency-Modulated Continuous Wave radar, which is still under development. It takes inspiration from a system implemented by the MIT Lincoln Laboratory. The radar is conceived to be cheap and easy to be built, so that it can be smoothly replicated and used for training purposes or to carry out basic experiments, in order to get acquainted with the GPR technology and methodology.

Lara Pajewski, “Roma Tre” University, Italy

Raffaele Persico, IBAM-CNR, Italy

Simone Chicarella, Sapienza University of Rome, Italy

Vincenzo Ferrara, Sapienza University of Rome, Italy

Fabrizio Frezza, Sapienza University of Rome, Italy

Filippo Troiani, Sapienza University of Rome, Italy

Thursday, September 22, 15:00 – 16:30 (KORČULA)

WESC: ERICSSON NIKOLA TESLA SUMMER CAMP 2016 WORKSHOP

Ericsson Nikola Tesla Summer Camp is a summer workshop for senior students from Croatian and universities from the region. The first Summer Camp was organized back in 2001 and since then more than 500 students participated. Students work five weeks on real problems in real industrial environment with mentors both from the company and universities.

ORGANIZER: Saša Dešić, PhD, Research and Innovation Manager

Ericsson Nikola Tesla d.d., Zagreb

Dr. Saša Dešić received his PhD degree from the University of Zagreb, Croatia in 2004. He has been working as a teaching assistant in the Faculty of electrical engineering and computing and as a research engineer in Ericsson Nikola Tesla. Currently he is the head of the Research and Innovation unit in Ericsson R&D Centre in Croatia. His primary fields of interest include e-Health applications and software engineering practices. He holds a position of assistant professor at the University of Zagreb, in the Faculty of Electrical Engineering and Computing, Telecommunications Department. Dr. Dešić is main coordinator of Summer Camp.

MODERATOR: Goran Gašparović, Software Engineer

Ericsson Nikola Tesla d.d., Split

Diploma Engineer of Computer Science, University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture. Current position, Software Engineer at Ericsson Nikola Tesla, Research and Innovation Unit. Previously employed 2012-2015 as a PhD researcher on the Croatian National Science Foundation project MICROGRID at University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture. Thesis topic on energy planning and long-term optimization of energy systems with high share of renewable sources and storage capacity. Current research interests in Big Data and Analytics in telecommunications, including anomaly and fault detection and prevention, time-series analysis, machine learning concepts.

Android App For Datacenter Equipment Management
Mentor(s): Marin Orlić, Tonči Jukić
Team members: Duje Kelam, Josip Krnjić

eVineyard
Mentor(s): Zoran Civadelić, Željko Popović
Team members: Klara Ćurković, Ivan Križanović, Tomi Tudor

Linux Command Automation In Java
Mentor(s): Ante Perić, Zrinka Koprčina
Team members: Ivan Listeš

Tool For Quick Finding Compatible Platform And Application Software
Mentor(s): Stipe Kotlar, Ante Kuliš, Biljana Stojan, Tihana Petra Herceg
Team members: Goran Medić, Marin Puizina

Emergency Recovery Procedure Mobile Application
Mentor(s): Stipe Kotlar, Ante Kuliš, Biljana Stojan, Tihana Petra Herceg
Team members: Boris Kostreš, Davor Ljubenkov

Trouble Report Tracking Process Improvement
Mentor(s): Boris Strukan, Dino Bezdrov
Team members: Gligorije Ćupković, Martina Jokić

Friday, September 23, 9:00 – 10:30 (KORČULA)

WIICT: WORKSHOP ON INNOVATION IN ICT

Lean Innovation Workshop

The Lean Innovation workshop aims to give the participants a solid „hands-on" understanding of what Lean Innovation is and how it can be used in their daily work. We will introduce central key Lean Innovation terms and group activities that are essential for Lean Innovation to work: like Customer Value Proposition (CVP), Minimun Viable Prototype-Product (MVP) & Minimum Viable Business Model (MVBM). Additionally, to reinforce the new found knowledge with the participants, we will use a newly developed visual tool that can be easily used. Its called the Innovation Molecule and it will enable the core part (Lean Startup) of the innovative process to efficiently get off the ground.

Agenda:

1. **Lean Innovation Overview & Introduction (20 min)**
    - Customer Value Proposition (CVP), MVP & MVBM
2. **Lean iMolecule in practice**
    - Group work – Come up with good idea & „MVP" suggestion (15 mins)
    - Put into iMolecule for idea-innovation paradigm & agree on a „CVP" (20 mins)
    - Interveiw WS „customers" (i.e. would you buy it & at what price point)…. Get info. from the ground before you build….(10 mins)
    - WS Present & share learnings - share (iMolecules + MVBMs) in all WS groups (15 mins)
3. **Lean Innovation Wrap-up & Take aways (10 mins)**

Organizer:

Marko Bervanakis, Ericsson Nikola Tesla d.d., Zagreb

Biography:

Marko Bervanakis (B. Electrical/Electronic Eng., Dipl. Education.) is currently working at ERICSSON Nikola Tesla d.d. as a Global New Business & Innovation Manager, Coach and Facilitator. In the past – he has also worked in other Global Telecoms companies (both in Europe & in the Asia pacific region) as a technical trainer-educator, consultant, manager and innovation facilitator. Today, he also serves as a key team member in the organization and execution of Ericssons annual Global Innovation Challenge for University students. He has won several company Innovation awards and runs innovation workshops around the globe. Additionally, he has also worked as a Science & Mathematics pedagogue in both Primary & Secondary schools. In turn, he is currently involved in scaling up Ericssons Connect-To-Learn (i.e. bringing educational resources to developing countries) corporate social responsibility initiative to a wider audience.

Friday, September 23, 14:30-16:00 (KORČULA)

WSEP: FIFTH WORKSHOP ON SOFTWARE ENGINEERING IN PRACTICE

The software is everywhere around us. The significant growth of ICT products and solutions depends on the quality of the used software. The software is essential enabler of future usage and growth of networked s ociety surrounded with 50 billion of connected devices. Are we ready for such mass software production and keeping the software product life cycle continuous? Are the current researches and used software engineering practice correlated and ready to take re sponsibility for such broad and demanding software usage with quality and security demands? What are the software products in the “cloud” era, and are we ready to switch from software products to the model of software as a service? What challenges in softw are engineering are the most critical? Let's take opportunity to discuss these software engineering challenges and exchange experience between researchers and practitioners. Prepare your view and share it with others. Be on the workshop during the SoftCOM 2016 conference.

Moderator:

Darko Huljenic, PhD, Ericsson Nikola Tesla d.d., Zagreb

Biography:

Dr. Darko Huljenić received his Ph.D. degrees from the University of Zagreb, Croatia, in 2001. He has been with Ericsson Nikola Tesla since 1984. His current position is Manager for Technology & Science relations. He established the research department at ENT and expanded its cooperation with the major Croatian Universities as well as some international research institution s. His main interests are open network architecture, software development methodologies and service oriented architecture. Dr. Huljenic holds a position of associate professor at the University of Zagreb, in the Faculty of Electrical Engineering and Computing, Telecommunications Department.

Quality Assurance is not (just) testing
Zoran Bubric (Ericsson NT, Croatia)

Parallel testing in Cloud using Linux containers
Alen Caljkusic (Ericsson NT, Croatia)

Model-based cost-driven cloud service placement optimization
Ivana Stupar (Ericsson NT, Croatia)

Methodological approach for decoupling applications for Cloud deployments
Toni Mastelic (Ericsson NT, Croatia)

Friday, September 23, 14:30 – 16:00 (ŠOLTA)

RT1: ROUND TABLE ON BROADBAND INTERNET ACCESS

Development of the Infrastructure for the Broadband Access in the Areas with Insufficient Commercial Interest by using Structure and Investment Funds (ESI)

The Croatian Regulatory Authority for Network Industries (HAKOM) organizes a roundtable discussion on the topic "Development of Broadband Backhaul Infrastructure in Areas Lacking Sufficient Commercial Interest for Investments, using European structural and investment funds (ESI) ˝.

The aim of the roundtable is to provide current information for all parties involved in the process of development and construction of broadband infrastructure as well as giving guidelines to the potential beneficiaries of the EU funds on the steps necessary for a successful project implementation.

Organizer:

The Croatian Regulatory Authority for Network Industries (HAKOM)

Moderators:

Kristina Ćosić, HAKOM kristina.cosic@hakom.hr

Friday, September 23, 16:30 – 18:00 (KORČULA)

RT2: ROUND TABLE ON ENTREPRENEURSHIP IN ICT

Open Discussion – Entrepreneurship Experiences in Croatia

This round table will host some of Croatia's entrepreneurs with different backgrounds and previous experiences. We will discuss topics like the "Cold start" problem, relations to the government, relations to the university, human resources, software outsourcing etc. Audience will be able to step into the discussion, ask questions or provide comments of their own.

Open discussion guests will also talk about their good and bad moves, provide advices based on their experience for the attendees and possibly hear about your ideas.

Panelists:

Morten Smalby, Sol Itum – *entrepreneur originating from Denmark with previous experiences from Germany. Now he is living in Croatia for almost 10 years, and will talk about building travel / tourism products.*

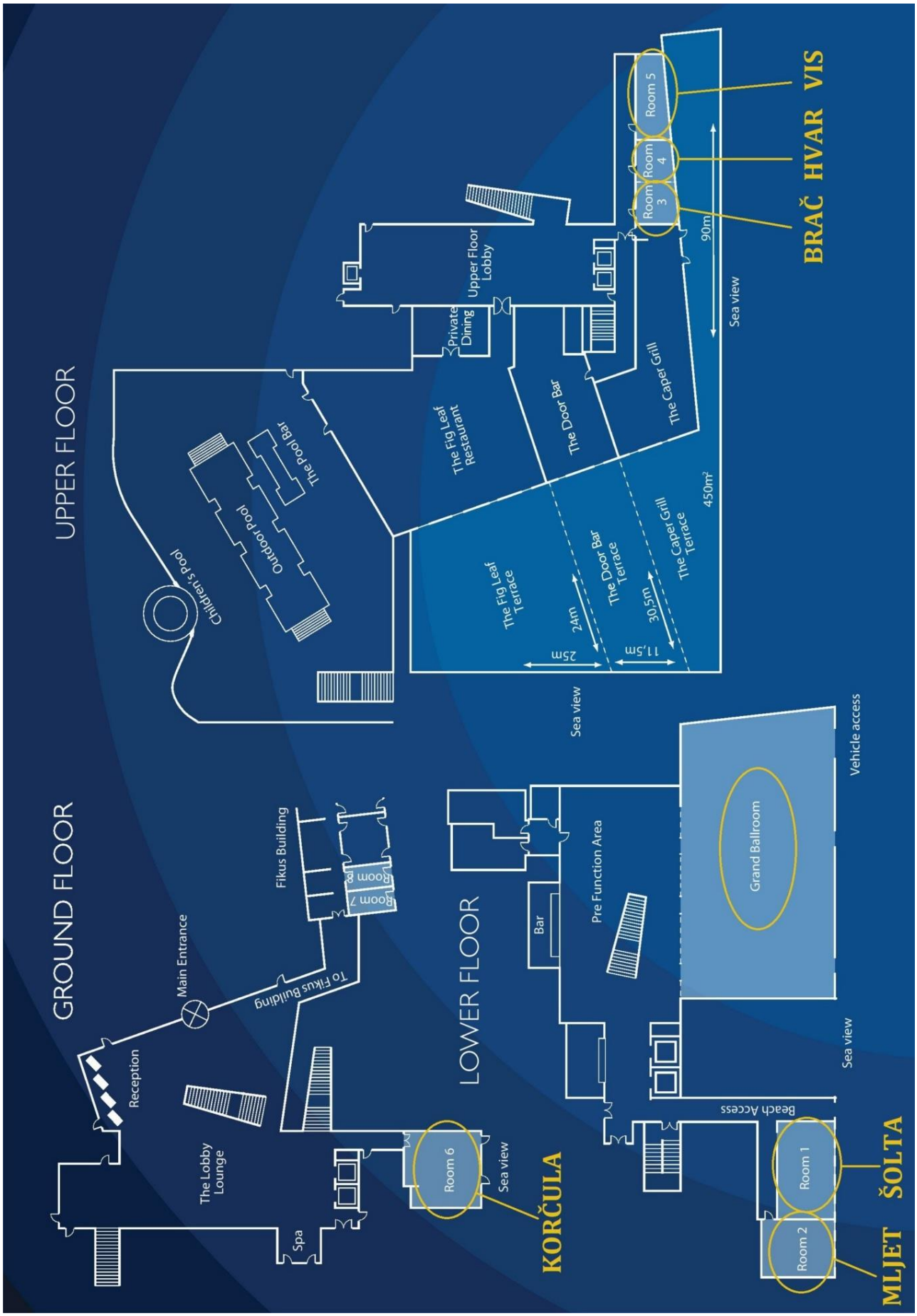
Antonio Perić, Locastic – *a local entrepreneur currently leading a software outsourcing agency in Split. Antonio will discuss the local entrepreneurship problems and benefits, working with foreign clients and Croatias position on the global IT market.*

Dario Boras, Amplifico – *just recently went from finishing the college to starting his own company dealing in Internet of Things and smart sensors. Dario will talk about the Cold start problem, getting information and the role of experience.*

Moderator:

Ante Dagelić, FESB – *currently assistant teacher at FESB working on PhD in software security and software architecture design. Ante is also an entrepreneur having experience in product design and development and will moderate the discussion.*

HOTEL RADISSON BLU RESORT: FLOOR PLAN



GENERAL INFORMATION

SPLIT

VENUE

The 24th International Conference on Software, Telecommunications and Computer Networks (SoftCOM 2016 will be held in Split.
Split is the largest city on the Croatian coast of the Adriatic Sea with a population of 180.000. The visit of Split can offer the travellers an extraordinary city tour without any need to take buses to reach the centre. Even today as you pass along the south promenade of the Palace, you can feel Diocle's spirit. You can also feel the light breeze blowing from the sea as it seems to be playing through the openings of the Cryptoporticus, welcoming to this town, travellers for whom as Diocles said, there will always be a bed, food, drink, music and the presence of God.

TRAVELING TO SPLIT

Split can be reached by air: directly from Amsterdam, Brussels, Franfurt, London, Lyon, Manchester, Munich, Paris, Vienna and via Zagreb from all world airports (for more information please visit Airport Split-Kastela); by ship: Split harbor is daily connected with Ancona. Ship connections are also available with Venice, Pescara and Bari.

WEATHER

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

PROCEEDINGS

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

LANGUAGE

The Conference language is English.

REGISTRATION

Thursday, September 22: 09:00 – 13:30, 15:00 – 18:30
Friday, September 23: 08:00 – 11:00, 14:30 – 18:00
Saturday, September 24: 08:00 – 12:00

SECRETARY

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