

ETAI 2015 TECHNICAL PROGRAMME SCHEDULE

Day	Time	BILJANA Hall	SMOIL Hall	KANEO Hall	OHRID Hall
THURSDAY, 24. IX 2015	11:15-12:00	Conference Opening			
	12:00-12:45	Plenary Lecture 1: Prof. Petri Mähönen Professor, Head of Institute Institute for Networked Systems - RWTH Aachen University			
	12:45-13:30	Plenary Lecture 2: Prof. GAO Huijun Professor, Director of Institute Research Institute of Intelligent Control and Systems - School of Astronautics, Harbin Institute of Technology			
	13:30-14:30	Lunch			
	15:00-15:45	Plenary Lecture 3: Dr. Jan Van der Spiegel Professor of the Electrical and Systems Engineering Department University of Pennsylvania, PA, USA			
	16:00-17:30	SPEECH AND AUDIO PROCESSING (1)	WIRELESS AND MOBILE COMMUNICATIONS	ROBOTICS AND MILITARY APPLICATIONS	APPLIED MATHEMATICS IN ETAI
	18:00-19:00				
20:00-22:00	Gala Dinner				
FRIDAY, 25. IX 2015	08:30-10:00		EMBEDDED SYSTEMS	TELECOMMUNICATION NETWORKS	MANAGEMENT AND CONTROL
	10:00-10:45	Plenary Lecture 4: Dr. Sebastian Engell Professor at the Chair of Process Dynamics and Operations, Technische Universität Dortmund, Germany			
	10:45-11:15	Coffee break			
	11:15-12:15		Makedonski Telekom AD Skopje		
	12:15-13:30			Round Table 1: Entrepreneurship	
	13:30-14:30	Lunch			
	15:00-16:30		SPEECH AND AUDIO PROCESSING (2)	TELECOMMUNICATION BUSINESS MANAGEMENT	INFORMATION SYSTEMS
17:00-20:00	Boat cruising				
SATURDAY, 26. IX 2015	09:00-09:45	Plenary Lecture 5: Dr. Simon Deleonibus Chair IEEE Electron Device Society SRC Region 8 Chief Scientist/Directeur Scientifique CEA, LETI, France			
	09:45-11:15		INSTRUMENTATION AND MEASUREMENTS	REGULATIONS AND SECURITY	COMPUTER AIDED ELECTRONICS DESIGN AND SIMULATION
	11:15-11:45	Coffee break			
	11:45-12:30	Plenary Lecture 6: Dr. Nikola Serafimovski Director, Product Marketing pureLiFi Ltd, Edinburgh Technology Transfer Centre			
	12:30-13:30			Round Table 2: Cyber Security	
13:30-13:50	Closing Ceremony				

THURSDAY, 24. IX. 2015

SESSION ETAI – 1: SPEECH AND AUDIO PROCESSING (1)

16:00 – 17:30

Co-Chairs: Siniša Suzić, Branislav Gerazov

ETAI 1-1	SERBIAN MOBILE SPEECH DATABASE COLLECTION AND EVALUATION
	Siniša Suzić, Branislav Popović, Darko Pekar and Vlado Delic
ETAI 1-2	SUBJECTIVE AND OBJECTIVE MEASUREMENT OF VOICE SIMILARITY - RECORDING AND ANALYSIS OF PERSONAL AND IMITATED SPEAKER DATABASE
	Vlado Delic, Ivan Jokic, Tijana Delic, Slobodan Josic, Kristina Vakarov, Maja Milisic and Robert Safer
ETAI 1-3	ATOM-DECOMPOSITION BASED ANALYSIS FOR THE PURPOSE OF EMPHATIC WORD DETECTION
	Aleksandar Gjoreski, Branislav Gerazov and Zoran Ivanovski
ETAI 1-4	EMPHATIC WORD DETECTION BASED ON SYLLABLE DURATIONS
	Aleksandar Melov, Branislav Gerazov and Zoran Ivanoski
ETAI 1-5	EMPHATIC WORD DETECTION BASED ON RELATIVE PHONE ENERGIES WITHIN SYLLABLES
	Ana Stojkovic, Branislav Gerazov and Zoran Ivanovski

SESSION ETAI – 2: WIRELESS AND MOBILE COMMUNICATIONS

16:00 – 17:30

Co-Chairs: Miroslav Kotevski, Vladimir Nikolikj

ETAI 2-1	5G MOBILE TERMINALS AND NETWORKS WITH QOS PROVISIONING AND VERTICAL MULTI-HOMING
	Tomislav Shuminoski and Toni Janevski
ETAI 2-2	MOBILE CLOUD COMPUTING IN 5G NETWORKS
	Stojan Kitanov and Toni Janevski
ETAI 2-3	ГОВОРНИТЕ УСЛУГИ ПРИ МИГРАЦИЈА ВО LTE И ПОКАЗАТЕЛИ НА КВАЛИТЕТ, СО ОСВРТ НА АД MKT
	Konstantin Martinov, Miroslav Kotevski and Ljupco Todorovski
ETAI 2-4	NOVEL BUSINESS MODELLING FOR EMERGING WIRELESS HETEROGENEOUS NETWORKS

	Vladimir Nikolikj and Toni Janevski
ETAI 2-5	IMPACT OF THE ACS, CARRIER FREQUENCY AND BANDWIDTH IN LTE MOBILE NETWORKS ON THE AVERAGE BITRATE LOSS OF THE REFERENCE CELL AND OF THE ACTIVE USERS
	Kire Jakimoski and Vlatko Gjurovski
ETAI 2-6	THE EFFECTS OF VARIATIONS IN RECTANGULAR MICROSTRIP ANTENNA PARAMETERS ON THE AGREEMENT BETWEEN EXPERIMENTAL AND SIMULATION RESULTS
	Emrah Uğurlu, S. Sinan Gültekin, Özgür Dündar and Dilek Uzer

SESSION ETAI – 3: ROBOTICS AND MILITARY APPLICATIONS

16:00 – 17:30

Co-Chairs: Georgi Dimirovski, Mile Stankovski

ETAI 3-1	FUZZY-LOGIC AND KNOWLEDGE-BASED FRAMEWORK FOR ENVIRONMENT INTERPRETATION SYSTEMS IN AUTONOMOUS ROBOTS AND VEHICLES
	Gorjan Nadzinski, Matej Dobrevski, Dule Stavrov, Dilek Bilgin Tukul and Georgi Dimirovski
ETAI 3-2	DANCE WITH THE ROBOT
	Can Orhan, Umur Küntan, Dilek Tukul, Georgi Dimirovski and Figen Özen
ETAI 3-3	SWITCHING BASED CONTROLS FOR SMALL FLEXIBLE STRUCTURES ON ORBIT: RELEVANCE IN ATTITUDE STABILIZATION
	Vesna Ojleska Latkoska, Georgi Dimirovski and Jiqiang Wang
ETAI 3-4	GUIDANCE AND CONTROL LAWS FOR FLYING WING AERIAL VEHICLES
	Stojce Deskovski, Vasko Sazdovski and Olivera Petrovska
ETAI 3-5	САТЕЛИТСКИ НАВИГАЦИСКИ СИСТЕМ ЗА АВТОМАТСКО СЛЕТУВАЊЕ НА ВОЗДУХОПЛОВ
	Olivera Petrovska, Vesna Antoska Knights and Stojche Deskovski
ETAI 3-6	EVALUATION OF LARGE SCALE DIRECT MONOCULAR SLAM ON AERIAL VEHICLE
	Dusko Murtovski, Vasko Sazdovski and Mile Stankovski

SESSION ETAI – 4: APPLIED MATHEMATICS IN ETAI**16:00 – 17:30**

Co-Chairs: Katerina Hadzi-Velkova Saneva, Elena Hadzieva

ETAI 4-1	DESIGN OPTIMIZATION OF TRANSFORMER RECTIFIER UNIT FOR ELECTROSTATIC PRECIPITATORS BASED ON DIFFERENTIAL EVOLUTION ALGORITHMS
	Rasim Salkoski and Ivan Chorbev
ETAI 4-2	GABOR FRAMES ON TEST FUNCTION SPACES
	Katerina Hadzi-Velkova Saneva and Sanja Atanasova
ETAI 4-3	REAL-TIME TOOL FOR AFFINE TRANSFORMATIONS OF TWO DIMENSIONAL IFS FRACTALS
	Elena Hadzieva and Marija Shuminoska
ETAI 4-4	APPROXIMATION OF MAP BORDERS USING MATHEMATICA
	Vesna Andova, Sanja Kostadinova, Kostadin Bacev, Gjorgji Peev and Georgi Kostov
ETAI 4-5	DIFFERENT NUMERICAL APPROACHES FOR SOLVING SINGULAR PERTURBATION PROBLEMS
	Ivana Aleksovska, Katerina Hadzi-Velkova Saneva, Sonja Gegovska-Zajkova and Sanja Atanasova
ETAI 4-6	A MOVEMENT OF 2D FRACTAL USING ITERATED FUNCTIONAL SYSTEM
	Vesna Andova, Sanja Atanasova, Georgi Kostov, Mimi Prockova and Kalina Kostovska

FRIDAY, 25. IX. 2015

SESSION ETAI – 5: EMBEDDED SYSTEMS

08:30 – 10:00

Co-Chairs: Goce Arsov, Josif Kjosev

ETAI 5-1	AN FPGA DEBUGGING TOOL FOR HIGH SPEED MULTI-CHANNEL DATA CONVERTER ADD-ON BOARDS
	Vladica Sark, Jesús Gutiérrez and Eckhard Grass
ETAI 5-2	ЕКСПЕРИМЕНТАЛНА ПЛАТФОРМА СО ВГРАДЛИВ МИКРОКОМПЈУТЕРСКИ СИСТЕМ И МОДЕЛ НА ВОЗИЛО
	Никола Јовановски and Јосиф Ќосев
ETAI 5-3	PROGRAMMABLE LOGIC CONTROLLER BASED ON OPEN COMPONENTS FOR EMBEDDED SYSTEMS
	Martin Krusarov and Josif Kosev
ETAI 5-4	ВГРАДЛИВИ СИСТЕМИ СО ВИСОК СТЕПЕН НА ДОВЕРЛИВОСТ
	Zharko Kostadinovski
ETAI 5-5	INTEGRATED CIRCUIT FAILURE MECHANISMS AND THE IMPACTS OF TECHNOLOGY DOWNSCALING
	Aleksandar Simevski
ETAI 5-6	СОФТВЕРСКА ОКОЛИНА ЗА МЕМОРИСКО-ЦЕНТРИЧНА ПРОЦЕСОРСКА АРХИТЕКТУРА
	Goce Dokoski, Danijela Efnusheva, Marija Kalendar and Aristotel Tentov
ETAI 5-7	ПРОЕКТИРАЊЕ НА НОВА МЕМОРИСКО-ЦЕНТРИЧНА АРХИТЕКТУРА И ОРГАНИЗАЦИЈА НА ПРОЦЕСОРИ
	Danijela Efnusheva, Goce Dokoski, Aristotel Tentov and Marija Kalendar

SESSION ETAI – 6: TELECOMMUNICATION NETWORKS

08:30 – 10:00

Co-Chairs: Zoran Hadzi-Velkov, Borislav Popovski

ETAI 6-1	ANALYSIS OF THE PERFORMANCE OF REACTIVE ROUTING PROTOCOLS IN A BATTLEFIELD MONITORING SCENARIO
	Marija Bubinska, Valentin Rakovic and Liljana Gavrilovska

ETAI 6-2	MEASUREMENTS OF CD AND PMD AND THEIR IMPACT IN THE FIBER OPTIC SYSTEMS
	Blagoj Trajkoski and Borislav Popovski
ETAI 6-3	TCP OHRID
	Ivan Petrov and Toni Janevski
ETAI 6-4	SIMULTANEOUS INFORMATION AND POWER TRANSFER SYSTEMS IN CO-CHANNEL INTERFERENCE
	Hristina Cingoska, Zoran Hadzi-Velkov and Ivana Nikoloska
ETAI 6-5	THROUGHPUT OF POINT-TO-MULTI POINT WIRELESS POWERED COMMUNICATION NETWORKS
	Ivana Nikoloska, Zoran Hadzi-Velkov and Hristina Cingoska
ETAI 6-6	COMPARISON OF PROTOCOLS AND VIDEO PLAYERS FOR A LIVE VIDEO STREAMING APPLICATION
	Aleksandar Stojmenski, Petar Danilovski, Ivan Chorbev and Dejan Konevski

SESSION ETAI – 7: MANAGEMENT AND CONTROL

08:30 – 10:00

Co-Chairs: Cvetko Andreeski, Jovan Stefanovski

ETAI 7-1	IDENTIFICATION OF PROBLEMS AND NONCONFORMITIES IN PUBLIC INFRASTRUCTURAL ORGANIZATION ACCORDING TO ISO/IEC 27001
	Dejan Gadjovski and Marija Cundeva-Blajer
ETAI 7-2	ELIMINATION OF DESCRIPTOR NATURE IN STANDARD DESCRIPTOR SYSTEM CONTROL STRUCTURE
	Drilon Bunjaku and Jovan Stefanovski
ETAI 7-3	THE E-FACILITATORS IN SCHOOL
	Radoslav Yoshinov, Monka Kotseva and Rumen Trifonov
ETAI 7-4	SENTIMENT ANALYSIS IN TOURISM
	Cvetko Andreeski
ETAI 7-5	НАЦИОНАЛЕН ИНФОРМАЦИОНЕН СИСТЕМ ЗА ЖИВОТНА СРЕДИНА
	Igor Paunovski and Hristina Spasevska.

FRIDAY, 25. IX. 2015

SESSION ETAI – 8: SPEECH AND AUDIO PROCESSING (2)

15:00 – 16:30

Co-Chairs: Vlado Delic, Zoran Ivanovski

ETAI 8-1	THE USE OF STATISTICAL LANGUAGE MODELS FOR GRAMMAR AND SEMANTIC ERROR HANDLING IN SPELL CHECKING APPLICATIONS FOR SERBIAN
	Stevan Ostrogonac, Branislav Popović and Robert Mak
ETAI 8-2	ONE APPROACH TO SPEAKER MODELING FOR ANDROID APPLICATIONS
	Ivan Jokić, Stevan Jokić, Vlado Delić and Zoran Perić
ETAI 8-3	COMPARATIVE ANALYSIS OF THE SOUND SPECTRUM CONTENT FOR PECUSSION MUSICAL INSTRUMENTS
	Sonja Krstić and Mirko Milošević
ETAI 8-4	TOWARDS SPEECH EMOTION RECOGNITION IN MACEDONIAN
	Branislav Gerazov, Gorgi Peev, Martin Hristov and Zoran Ivanovski

SESSION ETAI – 9: TELECOMMUNICATION BUSINESS MANAGEMENT

15:00 – 16:30

Co-Chairs: Miroslav Kotevski, Peco Nedelkovski

ETAI 9-1	BRANDING EFFECTIVENESS ASSESSMENT IN TELECOMMUNICATION COMPANIES
	Aleksandar Osmanli and Atanas Iliev
ETAI 9-2	ARCHITECTURAL SOLUTION FOR OTT TV IMPLEMENTATION
	Tanja Poposka
ETAI 9-3	EMERGENCY GOVERNANCE AND PREPAREDNESS TO RESPOND
	Zoran Nusev and Aleksandar Risteski
ETAI 9-4	ПРОЕКТЕН МЕНАЏМЕНТ ВО ГЕОГРАФСКИ ДИСПЕРЗИРАНА КОМПАНИЈА
	Ivana Georgievska and Aleksandar Risteski

SESSION ETAI – 10: INFORMATION SYSTEMS**15:00 – 16:30**

Co-Chairs: Dejan Gjorgjevikj, Ivan Chorbev

ETAI 10-1	USAGE OF AGILE METHODOLOGIES IN IMPLEMENTING SOFTWARE PROJECTS IN IT COMPANIES IN THE REPUBLIC OF MACEDONIA
	Vesna Budnoska and Dejan Gjorgjevikj
ETAI 10-2	SPECIFICATIONS FOR CENTRALIZED DATACENTER SERVING THE EDUCATIONAL CLOUD FOR BULGARIA
	Radoslav Yoshinov, Monka Kotseva and Daniela Pavlova
ETAI 10-3	SOFTWARE SYSTEM FOR ANALYSIS AND EVALUATION OF ENERGY EFFICIENCY IN BUILDINGS
	Goran Arsovski and Ivan Chorbev
ETAI 10-4	USING GPU MATRIX VECTOR MULTIPLICATION FOR COMPUTING WALSH SPECTRA
	Dusan Bikov and Aleksandra Stojanova
ETAI 10-5	RESTAURANT APPLICATION BASED ON ANDROID MOBILE DEVICE, RASPBERRY PI AND GOOGLE CLOUD PLATFORM
	Jasna Cekova and Blagoj Delipetrev
ETAI 10-6	OVERVIEW OF SENSOR-FUSION METHODS FOR GEOLOCATION IN ANDROID DEVICES
	Vlatko Nikolovski, Kostadin Mishev, Ivan Chorbev and Dimitar Trajanov

SATURDAY, 26. IX. 2015

SESSION ETAI – 11: INSTRUMENTATION AND MEASUREMENTS

09:45 – 11:15

Co-Chairs: Vladica Sark, Zivko Kokolanski

ETAI 11-1	PHY-LAYER LIMITATIONS OF DISTANCE MEASUREMENTS USING ROUND TRIP TIME OF FLIGHT (RTTOF)
	Vladica Sark and Eckhard Grass
ETAI 11-2	РАЗВОЈ НА ПОСТАПКА ЗА ИСПИТУВАЊЕ ХРАНА ТРЕТИРАНА СО ЈОНИЗИРАЧКО ЗРАЧЕЊЕ СО МЕТОДОТ НА ФОТОСТИМУЛИРАНА ЛУМИНИСЦЕНЦИЈА
	Ivana Sandeva, Hristina Spasevska, Margarita Ginovska and Lihnida Stojanovska-Georgievska.
ETAI 11-3	A METHOD FOR DECREASING THE NUMBER OF BITS FOR DIGITAL REPRESENTATION OF MEASUREMENT SIGNALS
	Milan Dincic, Dragan Denić, Zoran Perić, Dušan Gleich, Peter Planinšič and Vladimir Dimčev
ETAI 11-4	DIREKTEN INTERFEJS NA KAPACITIVNO MERNO SETILO ZA POMESTUVANJE SO MIKROKONTROLER
	Kristijan Kjosevski and Zivko Kokolanski
ETAI 11-5	MEASURED PARAMETERS IN RADIOTHERAPY INFLUENCED BY RADIATION DETECTOR TYPE
	Sonja Petkovska, Yasin Akarbash and Margarita Ginovska

SESSION ETAI – 12: REGULATIONS AND SECURITY

09:45 – 11:15

Co-Chairs: Aleksandar Risteski, Vladimir Ristevski

ETAI 12-1	MERGERS AND ACQUISITIONS OF TELECOMMUNICATIONS COMPANIES IN EUROPEAN UNION
	Robert Ordanoski, Vladimir Ristevski and Aleksandar Risteski
ETAI 12-2	MERGERS AND ACQUISITIONS OF TELECOMMUNICATIONS COMPANIES IN REPUBLIC OF MACEDONIA
	Vladimir Ristevski, Robert Ordanoski and Aleksandar Risteski
ETAI	REGULATION OF MINIMAL QOS OF INTERNET SERVICES IN EU AND MACEDONIA

12-3	
	Igor Krlevski and Marko Porjazoski
ETAI 12-4	ANALYSIS OF THE EFFECTS OF THE TCP SYN FLOOD DDOS ATTACKS AND PROPOSED COUNTERMEASURES
	Aleksandar Toshevski, Mitko Bogdanoski and Dimitar Bogatinov
ETAI 12-5	HACKING ATTACKS: SECURITY THREADS IN IPV6 NETWORKS
	Mane Piperevski
ETAI 12-6	МОДЕЛ НА ТЕЛЕКОМУНИКАЦИСКА ИНФРАСТРУКТУРА ЗА ПОДДРШКА НА МАКЕДОНСКА ПОШТА АД СКОПЈЕ
	Mane Piperevski and Aleksandar Risteski

SESSION ETAI – 13: COMPUTER AIDED ELECTRONICS DESIGN AND SIMULATION

09:45 – 11:15

Co-Chairs: Zoran Ivanovski, Tomislav Kartalov

ETAI 13-1	NUMERICAL ANALYSIS OF COMPLEX GROUNDING SYSTEMS USING CIRCUIT BASED METHOD
	Andrijana Kuhar, Lidija Ololoska Gagoska and Leonid Grcev
ETAI 13-2	PHONONS IN THE CRYSTAL NANOFILM-STRUCTURE
	Jovan Šetrajić, Igor Šetrajić, Stevo Jaćimovski, Branko Markoski and Stojan Markoski
ETAI 13-3	AUTOMATIC GENERATION AND SYSTEMATIZATION OF A VOLTAGE DIPS DATABASE
	Marija Markovska, Zivko Kokolanski, Vladimir Dimcev and Dimitar Taskovski
ETAI 13-4	PRECHARGE PHASE DETECTORS APPLICATION IN DELAY LOCKED LOOPS
	Goran Jovanović and Mile Stojčev
ETAI 13-5	DESIGN OF AN ADAPTIVE TRANSMITTER AT 60 GHZ
	Maya Malenko, Aristotel Tentov and Marija Kalendar