

Мулти-конференција во организација на  
ETAИ-IFAC

An ETAИ-IFAC Multi-Conference

**ETAИ / AAS / DECOM 2009**

**ПРОГРАМА**  
**TECHNICAL PROGRAMME**  
**SCHEDULE**



## Мулти-конференција ЕТАИ-ААС-ДЕСОМ 2009 Програма за ЕТАИ 2009

<http://www.etai.org.mk>

### ПРЕТСЕДАТЕЛ НА КОНФЕРЕНЦИЈАТА

Георги Димировски

### ПОТПРЕТСЕДАТЕЛИ НА КОНФЕРЕНЦИЈАТА

Мирослав Котевски и Александар Ристески

### ОРГАНИЗАТОР

**ЕТАИ** – Здружение за Електроника, Телекомуникации, Автоматика и Информатика на Република Македонија

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## Multi-Conference ETAI-AAS-DECOM 2009 Technical programme of ETAI 2009

[Http://www.etai.org.mk](http://www.etai.org.mk)

### CONFERENCE CHAIRMAN

Georgi Dimirovski

### CONFERENCE VICE CHAIRMEN

Miroslav Kotevski and Aleksandar Risteski

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Ojleska V. – FEIT Skopje  
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## НАМЕНА И ЦЕЛИ

ЕТАИ 2009 е девета од серијата конференции организирани од Здружението за ЕТАИ на Република Македонија. Претходните ги вклучуваат ЕТАИ '82, '85, '89, '93, 2000, 2003, 2005 и 2007. Традиционално, конференцијата се одржува во амбиентот на богатата реткост на природата и културата на Охридското крајбрежје, заштитено од УНЕСКО.

Намената на конференцијата, сообразно со нејзиниот заемно-дисциплинарен карактер, е изучување и експанзија на теориските и апликативните аспекти во електрониката, телекомуникациите, автоматиката и информатиката.

Целта на конференцијата е да обезбеди форум за презентација и дискусија на состојбата и развојните правци на областите што ги покрива ЕТАИ во Република Македонија и пошироко. Се очекува да се развие дискусија за различните концепти, методи и технологии и да се разменат погледи од експерти од различни профили од земјата и странство.

## ТЕМИ

Електрични кола и системи, Полупроводнички електронски елементи, Интегрирани електронски кола, Вградливи микрокомпјутерски системи, Индустриска електроника, Енергетска електроника, Наноелектроника и нанотехнологији, Оптиоелектроника и ласери, Електромагнетна компатибилност, Радио-дифузна технологија, Антени и простирање на бранови, Електроника за широка потрошувачка, Воздухопловни и електронски системи, Регулатива на комуникациите, Теорија на комуникации и информации, Оптички комуникации, Телекомуникациски мрежи, Радио комуникации, Безжични комуникации, Управување на телекомуникациски мрежи, Нова генерација мрежи, Напредни пристапни технологии, Системско инженерство, Системи на управување, Сензори и навигациски системи, Фази системи, Мехатроника, Теорија на управување, Автоматизација, менаџмент и управување во технички и нетехнички системи, Управување на подвижни објекти, Интелигентни системи и управување, Роботика и автоматизација, Невронски мрежи, Надежност на компјутерски системи, Виртуелни околин, Компјутерски архитектури, Компјутерска графика, Дистрибуирано процесирање, Препознавање на облици и машинска интелигенција, Софтверско инженерство, Мултимедиа, Паралелно процесирање, Компјутерски мрежи, Интернет и ИП технологии, Визуелизација, Бази на податоци и информациона системи, Инженерство во медицина и биологија, Процесирање на слики и видео, SCADA системи, Едукација во областите ЕТАИ, Процесирање на сигнали, Инструментација и мерење, Моделирање и симулација, Знаење и трансфер на технологии, Екоинформатика, Проектен менаџмент.

## РАБОТНИ ЈАЗИЦИ

Јазичи на конференцијата ЕТАИ 2009 ќе бидат македонскиот и англискиот.

## КОТИЗАЦИЈА

Котизацијата изнесува 60 Евра. Студентската котизација изнесува 20 Евра, при што студентот треба да приложи доказ дека е студент. Доплата за придружник е 20 Евра.

Котизацијата може да се плати на сметката на Здружението ЕТАИ: **Здружение за ЕТАИ – Скопје, 300000001187995, Депонент на Комерцијална Банка – Скопје;** или директно на Конференцијата, при регистрација. Местото за регистрација ќе биде поставено во Хотел Метропол, и ќе започне со работа во **сабота, 26.IX 2009, во 12:00 часот.**

Котизацијата вклучува: материјали на конференцијата, учество во работата на конференцијата, коктел за добредојде, екскурзија и свечена вечера.

## СМЕСТУВАЊЕ

Комплексот на хотели Метропол нуди намалени цени за сместување, за учесниците на Конференцијата.

**Хотел Метропол** (четири ѕвездички)

55 Евра за едно ноќевање, за една личност, во еднокреветна соба.

44 Евра за едно ноќевање, за една личност, за двокреветна соба.

**Хотел Турист** (три ѕвездички, помал, но во истиот двор со Хотелот Метропол)

44 Евра за едно ноќевање, за една личност, во еднокреветна соба.

33 Евра за едно ноќевање, за една личност, за двокреветна соба.

Резервацијата се врши директно во **Комплексот на хотели Метропол**, со назнака дека сте дел од конференциите ЕТАИ-AAS-DECOM '09. Контактот и за двата хотели е следен.

**Интернет страница:** <http://www.metro-pol-ohrid.com>; **Тел:** +389 46 203001; or +389 46 277660; or +389 46 277661; or +389 46 277662; **Факс:** +389 46 277212; or +389 46 277215; **e-mails:** [sales@metro-pol-ohrid.com](mailto:sales@metro-pol-ohrid.com); [info@metro-pol-ohrid.com](mailto:info@metro-pol-ohrid.com); [metro-pol@mt.net.mk](mailto:metro-pol@mt.net.mk)

## ДРУШТВЕНИ АКТИВНОСТИ

Коктелот за добредојде е предвиден за сабота, 26.IX 2009, во 19:30 часот. Екскурзијата е предвидена за недела, 27.IX 2009, во 15:00 часот. Свечената вечера е предвидена за понеделник, 28.IX 2009, во 20:00 часот во Хотел Метропол.

## SCOPE

ETAI 2009 is the ninth in the series of thematic conferences organized by the Society for ETAI of the Republic of Macedonia. Previously, ETAI conferences were held in '82, '85-'89, '93, 2000, 2003, 2005 and 2007. Traditionally, ETAI conferences have been held in the ambient of the exceptional natural beauty and cultural heritage of Ohrid area, protected by the UNESCO. Following its interdisciplinary character, the scope of the Conference is rather broad. Its purpose is to present state of the art and advance both the theoretical and applied aspects in the areas of Electronics, Telecommunications, Automatics and Informatics.

The goal of the Conference is to provide a forum for sharing knowledge and experience among experts from both academic institutions and business industry enterprises in the areas of Electronics, Telecommunications, Automatics and Informatics. Thus, it is expected that the Conference will provide a setting for discussion on different concepts, methods and technologies for the benefit of advancing these areas in the country and wider.

## CONFERENCE TOPICS

Circuits and Systems, Solid-state Circuits, Integrated Circuits, Embedded systems, Industrial Electronics, Power Electronics, Nanoelectronics and Nanotechnology, Lasers and Electro-optics, Electromagnetic Compatibility, Broadcast Technology, Antennas and Propagation, Consumer Electronics, Aerospace Electronic Systems, Telecommunication Policies and Regulations, Communication and Information Theory, Optical Communications, Telecommunication Networks, Radio Communications, Wireless and Mobile Communications, Telecommunication Management Networks, Next Generation Networks, Advanced Access Technologies, System Engineering, Control Systems, Sensors and Navigational Systems, Fuzzy Systems, Mechatronics, Control Theory, Automation, Management and Control in Technical and Non-technical Systems, Control of Moving Objects, Intelligent Systems and Control, Robotics and Automation, Neural Networks, Reliability of Computer Systems, Virtual Environments, Computer Architecture, Computer Graphics, Distributed Processing, Pattern Analysis & Machine Intelligence, Software Engineering, Multimedia, Parallel Processing, Computer Networks, Internet & IP Technologies, Visualization, Databases and Information Systems, Engineering in Medicine and Biology, Image and Video Processing, SCADA systems, Education in ETAI fields, Signal Processing, Instrumentation and Measurement, Modeling and Simulation, Knowledge and Technology Transfer, Eco-informatics, Project Management.

## WORKING LANGUAGE

The official languages of the Conference are Macedonian and English.

## REGISTRATION FEE

All participants should pay a Conference Registration Fee. The registration Fee will be 60 Euros or equivalent in Macedonian denars and may be paid at the registration desk. Student's registration fee is 20 Euros. A student's application form must be endorsed by his/her Supervisor or Head of Department.

The registration fee includes attendance at all conference sessions, conference proceedings, welcome reception, night cruise, excursion and Conference diner.

The registration desk, at the Hotel Metropol, will be open at 12:00 hrs. on September 26, 2009.

## ACCOMMODATION

Metropol Hotels are offering conference attendees reduced rates.

**Hotel Metropol** (four star hotel)

EURO 55.00 per night, per person, for a single accommodation in the room.

EURO 44.00 per night, per person, for a double-bed accommodation (two persons).

**Hotel Turist** (one star lower category, smaller but next-door one in the same yard)

EURO 44.00 per night per person for a single accommodation in the room.

EURO 33.00 per night per person for a double-bed accommodation (two persons).

Note please, the number of rooms in this hotel is more limited.

You should make your reservation, directly with the **Metropol Hotel Resort** informing them that you are a member of the group with the **package** name ETAI-AAS-DECOM '09 Conferences. Contact means for both hotels are as follows:

**Web site:** <http://www.metropol-ohrid.com>; **Tel:** +389 46 203001; or +389 46 277660; or +389 46 277661; or +389 46 277662; **Fax:** +389 46 277212; or +389 46 277215; **e-mails:** [sales@metropol-ohrid.com](mailto:sales@metropol-ohrid.com); [info@metropol-ohrid.com](mailto:info@metropol-ohrid.com); [metropol@mt.net.mk](mailto:metropol@mt.net.mk)

## SOCIAL EVENTS

Welcome cocktail shall take place on Saturday, 26.IX 2009, at 19:30 hrs. Conference excursion shall take place on Sunday, 27.IX 2009, at 15:00 hrs. Conference dinner shall take place on Monday, 28.IX 2009, at 20:00 hrs. in Hotel Metropol.

## АДРЕСИ – ADDRESSES

ЕТАИ 2009 –  
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Република Македонија  
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Faks: ++389-2-306-42-62  
E-mail: etai@feit.ukim.edu.mk  
http://www.etai.org.mk

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FACULTY OF ELECTRICAL ENGINEERING AND  
INFORMATION TECHNOLOGIES  
P.O.Box 574, МК-1000 Skopje,  
Republic of Macedonia  
Tel: ++389-2-309-91-98  
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# ЕЛЕКТРОНИКА – ELECTRONICS

НЕДЕЛА - SUNDAY, 27. IX. 2009

СЕСИЈА - SESSION **E – 1**: ИНСТРУМЕНТАЦИЈА И МЕРЕЊЕ 1 –  
INSTRUMENTATION AND MEASUREMENT 1

09:00 – 10:30

Претседавачи – Co-Chairs: **Цветан Гавровски и Владимир Димчев**

- E1-1 МЕРЕЊЕ НА ЗАБРЗУВАЊЕ ВО СЕИЗМИЧКО ФРЕКВЕНТНО ПОДРАЧЈЕ  
*Витко МАТЕСКИ, Маре СРБИНОВСКА, Владимир ДИМЧЕВ*
- E1-2 ALGORITHM FOR LOCALIZATION OF SMART SENSORS IN DISTRIBUTED  
MEASUREMENT SYSTEMS  
*Mare SRBINOVSKA, Vladimir DIMCEV, Cvetan GAVROVSKI*
- E1-3 БЕЗЖИЧЕН ПРОГРАМАБИЛЕН КОНДИЦИОНЕР ЗА ОТПОРНИЧКИ  
МЕРНИ СЕТИЛА  
*Живко КОКОЛАНСКИ, Јосиф ЌОСЕВ, Цветан ГАВРОВСКИ*
- E1-4 FINITE ELEMENT METHOD FOR METROLOGICAL ANALYSIS OF  
MEASUREMENT DEVICES  
*Marija CUNDEVA-BLAJER, Ljupco ARSOV*
- E1-5 ПРЕЦИЗНО МЕРЕЊЕ НА БРЗИНАТА НА ВРТЕЊЕ НА АЦ МОТОР СО  
УПОТРЕБА НА ЕНКОДЕР  
*Марио МАКРАДУЛИ, Методија КАМИЛОВСКИ*

ПОНЕДЕЛНИК - MONDAY, 28. IX 2009

СЕСИЈА - SESSION **E – 2**: ИНСТРУМЕНТАЦИЈА И МЕРЕЊЕ 2 – INSTRUMENTA-  
TION AND MEASUREMENT 2

08:30 – 10:00

Претседавачи – Co-Chairs: **Љупчо Арсов и Марија Чундева-Блајер**

- E2-1 ELECTROMAGNETIC INTERFERENCE FROM GSM MOBILE PHONES IN  
PCI DAQ MEASUREMENT  
*Igor ŠTAMBUK, Roman MALARIĆ*
- E2-2 EXTRAPOLATION OF RESISTANCE STANDARD VALUES BETWEEN  
CALIBRATIONS  
*Petar MOSTARAC, Roman MALARIĆ, Hrvoje HEGEDUŠ*
- E2-3 ANALYSIS OF METHODS FOR RMS MEASUREMENT OF AC SIGNALS  
*Hrvoje HEGEDUŠ, Roman MALARIĆ, Petar MOSTARAC*
- E2-4 CALIBRATION OF GLASS VOLUMETRIC PIPETTE OF 10 ML  
*Nataša IVANOVSKA, Ljupco ARSOV, Hristina BABUNOVSKA*

E2-5 INTER-LABORATORY COMPARISON OF DC VOLTAGE REFERENCE STANDARDS

*Ljupco ARSOV, Alan ŠALA, Marija CUNDEVA-BLAJER, Hrvoje HEGEDUŠ*

E2-6 CALIBRATION OF THE FEIT RESISTANCE STANDARDS

*Ljupco ARSOV, Roman MALARIĆ, Zoran GRKOV, Marija CUNDEVA-BLAJER*

**СЕСИЈА - SESSION E – 3: ЕЛЕКТРОМАГНЕТНА КОМПАТИБИЛНОСТ И ЕЛЕКТРИЧНИ КОЛА И СИСТЕМИ – ELECTROMAGNETIC COMPATIBILITY AND CIRCUITS AND SYSTEMS**

**15:00 – 16:30**

Претседавачи – Co-Chairs: **Лидија Олопоска-Гагоска и Љупчо Караџинов**

E3-1 ПРОЦЕНКА НА ЕФЕКТИТЕ ОД ИЗЛОЖЕНОСТА НА ЧОВЕКОТ НА ЕМП ПРИ ВИСОКИ ФРЕКВЕНЦИИ

*Лидија ОЛОПОСКА-ГАГОСКА, Љубен ЈАНЕВ*

E3-2 МЕТОД ЗА ОДРЕДУВАЊЕ НА РАСПРЕДЕЛБАТА НА ПОЛНЕЖИ ПО ПРОВОДНО ТЕЛО СО ПРОИЗВОЛЕН ОБЛИК

*Андријана КУХАР, Љубен ЈАНЕВ*

E3-3 A NONRECIPROCAL AND NONSYMMETRIC LOSSY TRANSMISSION LINE IMPEDANCE MATCHING SECTION WITH MINIMUM NOISE FIGURE

*Tayfun GÜNEL*

E3-4 ACTIVE-ONLY WIDER BAND TUNABLE GROUNDED INDUCTANCE SIMULATOR EMPLOYING COA AND OTA

*Serhan YAMAÇLI, Sadri ÖZCAN, Hakan KUNTMAN*

E3-5 LOGIC CIRCUITS FOR INTERCONNECTION OF BINARY AND MULTIPLE-VALUED CMOS DIGITAL SYSTEMS

*Dušanka BUNDALO, Zlatko BUNDALO, Ferid SOFTIĆ, Miroslav KOSTADINOVIĆ*

**СЕСИЈА - SESSION E – 4: ИНДУСТРИСКА ЕЛЕКТРОНИКА И ПОЛУПРОВОДНИЧКИ ЕЛЕКТРОНСКИ ЕЛЕМЕНТИ – INDUSTRIAL ELECTRONICS AND SOLID-STATE CIRCUITS**

**17:00 – 18:30**

Претседавачи – Co-Chairs: **Гоце Арсов и Катерина Ралева**

E4-1 EFFICIENCY OPTIMIZED CONTROL OF INDUCTION MOTOR DRIVE IN DYNAMIC OPERATIONS

*Branko BLANUŠA, Branko DOKIĆ*

E4-2 AN EXPERIMENTAL INVESTIGATION OF SWITCHING LOSSES OF THE IGBT IN PSPWM DC-DC CONVERTERS DEPENDING ON THE PARALLEL SNUBBER CAPACITOR

*A. Faruk BAKAN, İsmail AKSOY, Nihan ALTINTAŞ, Hacı BODUR*

E4-3 ДИРЕКТИВИ НА ЕУ ЗА ЗАДОВОЛУВАЊЕ НА ECO-DESIGN БАРАЊАТА  
КАЈ ПОЛНАЧИ НА БАТЕРИИ И НАДВОРЕШНИ ИЗВОРИ ЗА  
НАПОЈУВАЊЕ

***Милан СТОЈАНОВСКИ, Љупчо КАРАЏИНОВ***

E4-4 LABVIEW SOFTWARE APPLIED TO MEASUREMENT OF CMOS INVERTER  
CIRCUIT PARAMETERS

***Milan M. SIMIĆ, Božidar R. DIMITRIJEVIĆ***

E4-5 DISCRETE LAYERED IR ABSORPTION IN ORGANIC NANOFILMS

***J. P. ŠETRAJČIĆ, B. S. MARKOSKI, S. K. JAĆIMOVSКИ, Igor SETRAJCIC,  
Zdravko IVANKOVIC,***

E4-6 IMPORTANCE OF THE BOUNDARY CONDITIONS WHEN MODELING  
SELF-HEATING EFFECTS IN CMOS DEVICES AND ANALOG CIRCUITS  
FABRICATED IN THE SOI TECHNOLOGY

***Katerina RALEVA, Dragica VASILESKA***

# ТЕЛЕКОМУНИКАЦИИ – TELECOMMUNICATIONS

САБОТА – SATURDAY, 26. IX 2009

СЕСИЈА - SESSION T – 1 : БЕЗЖИЧНИ КОМУНИКАЦИИ 1 – WIRELESS AND MOBILE COMMUNICATIONS 1

17:15 – 18:45

Претседавачи – Co-Chairs: **Венцеслав Кафеџиски и Петар Поповски**

T1-1 SPACE-TIME CODES FOR THE NON-COHERENT MIMO CHANNEL WHICH EXPLOIT THE DIFFERENTIAL GEOMETRY OF THE GRASSMANN MANIFOLDS

**Zoran UTKOVSKI, Juergen LINDNER**

T1-2 ANALYSIS OF SATELLITE COMMUNICATION QUALITY THROUGH USE OF NATIONAL INSTRUMENTS' LABVIEW

**Iva BACIC, Kresimir MALARIC**

T1-3 POLICY REGULATED NETWORKING IN COGNITIVE RADIO ENVIRONMENTS

**Vladimir ATANASOVSKI, Liljana GAVRILOVSKA, Daniel DENKOVSKI, Valentina PAVLOVSKA**

T1-4 БЕЗЖИЧЕН ПРЕНОС НА ВИДЕО СИГНАЛИ ОТПОРЕН НА ГРЕШКИ

**Славче ПЕЈОСКИ, Венцеслав КАФЕЏИСКИ**

T1-5 RFID PHY LAYER SECURITY - A RESEARCH SURVEY

**Filipo SAREVSKI, Aleksandar RISTESKI**

T1-6 RADIO PLANNING AND PROPAGATION MODELS ANALYSIS OF WIMAX - 3.5GHZ

**Vangel GEORGIEV, Pero LATKOVSKI, Borislav POPOVSKI**

НЕДЕЛА - SUNDAY, 27. IX. 2009

СЕСИЈА - SESSION T – 2: ТЕЛЕКОМУНИКАЦИСКИ МРЕЖИ – TELECOMMUNICATION NETWORKS

09:00 – 10:30

Претседавачи – Co-Chairs: **Мирослав Котевски и Зоран Хаџи-Велков**

T2-1 ВОВЕДУВАЊЕ НА ДОПОЛНИТЕЛНАТА УСЛУГА ПРОШИРЕНО ДИРЕКТНО БИРАЊЕ НА ЛОКАЛИТЕ

**Пецо НЕДЕЛКОВСКИ, Слободанка НИКОЛОВСКА, Соња ТРАЈКОВИЌ**

T2-2 ЕВОЛУЦИЈА КОН NGN И NGOSS, СО ОСВРТ НА АД МКТ - СТАТУС И ПЕРСПЕКТИВИ

**Константин МАРТИНОВ, Мирослав КОТЕВСКИ**

- T2-3 INTRODUCTION OF IMS (IP MULTIMEDIA SUBSYSTEM) IN MAKEDONSKI TELEKOM AD  
**Aleksandar CEKOROV, Slobodanka NIKOLOVSKA, Sonja TRAJKOVIK, Maja VAKLINSKA, Natasa SAMARDZISKA STEVCEVSKA**
- T2-4 MEDIA MARKET – NEW BATTLE FOR TELECOM OPERATORS  
**Igor BIMBILOSKI**
- T2-5 A SIMULATION STUDY OF THE OSPF PROTOCOL IN DEVS-SUITE  
**Ahmet ZENGİN, Huseyin EKİZ, Bulent COBANOGU, Sinan TUNCEL**
- T2-6 MODELING OF SAU CAMPUS NETWORK FOR STUDYING DESIGN ALTERNATIVES  
**Huseyin EKİZ, Ahmet ZENGİN, Yasemin TIRYAKI, Fatma BİLDİRİCİ**

**ПОНЕДЕЛНИК - MONDAY, 28. IX 2009**

**СЕСИЈА - SESSION T – 3: БЕЗЖИЧНИ КОМУНИКАЦИИ 2 – WIRELESS AND MOBILE COMMUNICATIONS 2**

**08:30 – 10:00**

Претседавачи – Co-Chairs: **Лилјана Гавриловска и Никола Љушев**

- T3-1 THROUGHPUT BEHAVIOUR DURING VERTICAL HANDOVERS BETWEEN HETEROGENEOUS WIRELESS NETWORKS  
**Kire JAKIMOSKI, Toni JANEVSKI**
- T3-2 THE ARCHITECTURE OF A SOFTWARE MODULE SUPPORTING VERTICAL HANDOVER IN HETEROGENOUS NETWORKS  
**Valentin ANDREI, Eduard C. POPOVICI, Octavian FRATU, Simona HALUNGA**
- T3-3 AUTHENTICATION, AUTHORIZATION AND ACCOUNTING PROVIDED BY DIAMETER PROTOCOL  
**Mitko BOGDANOSKI, Pero LATKOSKI, Tomislav SHUMINOSKI, Aleksandar RISTESKI**
- T3-4 SYSTEM HANDOVERS TOWARDS RECONFIGURABILITY IN WIRELESS HETEROGENEOUS NETWORKS  
**Ognen OGNENOSKI, Filipo SAREVSKI, Trajce DIMITRIEVSKI, Liljana GAVRILOVSKA**
- T3-5 HIGH MOBILITY HETEROGENEOUS NETWORK SCENARIO  
**Valentin RAKOVIC, Daniel DENKOVSKI, Elena TODOROSKA, Liljana GAVRILOVSKA**
- T3-6 МОДУЛ ЗА КОНТРОЛА НА ПРИСТАП БАЗИРАН НА ГЕНЕТСКИ АЛГОРИТАМ  
**Огнен ОГНЕНОСКИ, Филипо ШАРЕВСКИ, Славче ПЕЈОСКИ, Тони ЈАНЕВСКИ**

СЕСИЈА - SESSION T – 4: ИНТЕРНЕТ И ИП ТЕХНОЛОГИИ – INTERNET & IP TECHNOLOGIES

09:00 – 10:30

Претседавачи – Co-Chairs: **Тони Јаневски и Менка Ефнушева**

- T4-1 QOS PROVISIONING IN MANETS WITH BIOLOGICALLY INSPIRED ALGORITHMS  
*Tomislav SHUMINOSKI, Toni JANEVSKI*
- T4-2 TRAFFIC MEASUREMENTS OF NEW INTERNET PROTOCOL IPV6  
*Cebrail ÇİFLİKLİ, Ali GEZER, A. Tuncay OZSAHİN*
- T4-3 PERFORMANCE OF INTERNET TRANSPORT PROTOCOLS IN 802.11 OUTDOOR WIRELESS ENVIRONMENT  
*Toni JANEVSKI, Ivan PETROV*
- T4-4 IPTV QUALITY OF SERVICE  
*Toni JANEVSKI, Zoran VANEVSKI*
- T4-5 ПРОЦЕНКА НА РИЗИКОТ НА БЕЗБЕДНОСТА НА ИНФОРМАЦИИ ВО САМОСТОЕН CISCO VOIP СИСТЕМ  
*Димитар ШИКАЛЕСКИ, Татјана УЛЧАР-СТАВРОВА, Александар РИСТЕСКИ*
- T4-6 CONSISTENCY CONTROL IN REPLICATED SESSION MANAGEMENT SYSTEMS  
*Marjan BOŽINOVSKI*

СЕСИЈА - SESSION T – 5: ОПТИЧКИ КОМУНИКАЦИИ – OPTICAL COMMUNICATION

11:00 – 12:30

Претседавачи – Co-Chairs: **Пецо Неделковски и Борислав Поповски**

- T5-1 КОМПАРАЦИЈА И МОЖНОСТИ НА QKD ТЕХНИКИ  
*Томислав ШУМИНОСКИ, Маја КУКУШЕВА, Митко БОГДАНОСКИ, Александар РИСТЕСКИ*
- T5-2 FIBER TO THE HOME  
*Liljana NAJDENOVA*
- T5-3 АНАЛИЗА НА ДИНАМИЧКИ СООБРАЌАЕН GROOMING ВО WDM МРЕЖА СО КОРИСТЕЊЕ НА ГЕНЕРИЧКИ ГРАФ МОДЕЛ  
*Славче ПЕЈОСКИ, Борислав ПОПОВСКИ*
- T5-4 СИГУРНОСНИ МЕРКИ ВО ОПТИЧКИТЕ МРЕЖИ  
*Игорче САБОТКОСКИ, Александар РИСТЕСКИ*

# АВТОМАТИКА – AUTOMATICS

ПОНЕДЕЛНИК - MONDAY, 28. IX 2009

СЕСИЈА - SESSION A – 1 : КОМПЈУТАЦИОНА ИНТЕЛИГЕНЦИЈА КАЈ СИСТЕМИТЕ ЗА УПРАВУВАЊЕ – COMPUTATIONAL INTELLIGENCE IN CONTROL  
08:30 – 10:00

Претседавачи – Co-Chairs: **Зоран Гацовски и Цветко Андреевски**

A1-1 FUZZY LINEAR PROGRAMMING IN ECONOMICS – FOREIGN EXCHANGE MARKET

***Biljana R. PETRESKA***

A1-2 “FUZZY” МОДЕЛ ЗА ИЗБОР НА ПАТЕКАТА ВО ЗАВИСНОСТ ОД ТРОШОКОТ

***Рубен НУРЕДИНИ, Емилија КАМЧЕВА, Јасмин РАМАДАНИ***

A1-3 ОПТИМАЛНА РАСПРЕДЕЛБА НА МОЌНОСТИ ВО СИСТЕМ СОСТАВЕН ОД КОНВЕНЦИОНАЛНИ И ОБНОВЛИВИ ИЗВОРИ НА ЕНЕРГИЈА СО FUZZY – ГЕНЕТСКИ АЛГОРИТМИ

***Блаже ЃОРЃИЕВ, Атанас ИЛИЕВ***

A1-4 JOB ASSIGNMENT PROBLEM SOLVED BY NEURO-FUZZY INFERENCE SYSTEM

***Zoran GACOVSKI, Ivan KRALJEVSKI, Sime ARSENOVSKI***

A1-5 LEARNING HOPFIELD'S NEURONAL NET ALGORITHM

***Branko MARKOSKI, Vladimir BRTKA, Vladimir MILICEVIC, Borislav OBRADOVIC, Zoran MILOSEVIC***

A1-6 GUSTAFSON KESSEL (GK) CLUSTER ANALYSIS FOR GETTING TAKAGI-SUGENO FUZZY MODEL

***Stojan MARKOSKI, Branko MARKOSKI, Branko PETREVSKI, Borislav OBRADOVIC, Vladimir MILIĆEVIC***

СЕСИЈА - SESSION A - 2: ПРЕДВИДУВАЊЕ, ЕСТИМАЦИЈА И ОПТИМИЗАЦИЈА ВО СИСТЕМИТЕ ЗА УПРАВУВАЊЕ – PREDICTION, ESTIMATION AND OPTIMIZATION IN CONTROL

15:00 – 16:30

Претседавачи – Co-Chairs: **Атанас Илиев и Цветко Андреевски**

A2-1 SHORT-TERM FORECASTING OF THE ELECTRICITY LOAD AT SUBURBAN LEVEL

***Jelena MILOJKOVIĆ, Vančo LITOVSKI***

A2-2 PERFORMANCE ANALYSIS OF MPC OF INDUSTRIAL FURNACE DEPENDING ON THE CONTROL AND PREDICTION HORIZON

***Goran STOJANOVSKI, Goran VLADEV, Mile STANKOVSKI, Tatjana KOLEMISHEVSKA-GUGULOVSKA***

- A2-3 МАКСИМАЛНО ПОДОБЕН ОЦЕНУВАЧ КАЈ ФУНКЦИИТЕ ЗА ИДЕНТИФИКАЦИЈА НА СТАПКАТА НА СМРТНОСТ  
*Цветко Ј. АНДРЕЕСКИ, Пандиан ВАСАНТ*
- A2-4 ОПТИМАЛНА РАСПРЕДЕЛБА НА МОЌНОСТИ ВО СИСТЕМ СОСТАВЕН ОД КОНВЕНЦИОНАЛНИ И ОБНОВЛИВИ ИЗВОРИ НА ЕНЕРГИЈА  
*Софија НИКОЛОВА, Атанас ИЛИЕВ*
- A2-5 ПОВЕЌЕ-АГЕНТНИ СИСТЕМИ БАЗИРАНИ НА ПЕТРИ МРЕЖИ ВО СОЦИОНИКАТА  
*Елена ВЛАХУ-ЃОРГИЕВСКА, Оливер ИЛИЕВ, Никола РЕЊДЕВСКИ*

**ВТОРНИК - TUESDAY, 29. IX 2009**

**СЕСИЈА - SESSION A - 3: SCADA СИСТЕМИ – SCADA SYSTEMS**  
**09:00 – 10:30**

Претседавачи – Co-Chairs: **Марија Кацарска и Стојче Десковски**

- A3-1 СИСТЕМ ЗА ПРИБИРАЊЕ НА МЕДИЦИНСКИ ПОДАТОЦИ: МОБИЛНОСТ И ПРИКАЗ НА ПОДАТОЦИ  
*Томислав СТАНКОВСКИ, Горан СТОЈАНОВСКИ, Миле СТАНКОВСКИ, Аристотел ТЕНТОВ*
- A3-2 ПРИМЕНА НА SCADA ВО ЕЕС  
*Марија КАЦАРСКА, Сања ВЕЛЕВА, Славчо ДЕЛОВСКИ*
- A3-3 SCADA SIMULATION FOR MONITORING AND CONTROL OF HPP USING ROBUST LAW  
*Darko BABUNSKI, Emil ZAEV, Atanasko TUNESKI*
- A3-4 COMPUTER INTEGRATED MANUFACTURING & MANAGEMENT SYSTEMS - AN EMERGING APPLICATION OF CONTROL AND MANAGEMENT  
*Jozef Bohdan LEWOC, Antoni IZWORSKI, Slawomir SKOWRONSKI, Antonina KIELECZAWA, Georgi DIMIROVSKI*
- A3-5 SCADA КОНЦЕПТ ЗА ХИДРОСИСТЕМОТ „ЗЛЕТОВИЦА“  
*Миле Ј. СТАНКОВСКИ, Татјана КОЛЕМИШЕВСКА-ГУГУЛОВСКА, Ристе МИТЕВСКИ*

**СЕСИЈА - SESSION A - 4: ДИНАМИКА НА СИСТЕМИТЕ И НИВНО УПРАВУВАЊЕ – SYSTEM DYNAMICS AND CONTROL**  
**11:00 – 12:30**

Претседавачи – Co-Chairs: **Соња Геговска-Зајкова и Татјана Колемишевска-Гугуловска**

- A4-1 CHAOS IN JERK DYNAMICS  
*Sonja GEGOVSKA-ZAJKOVA, Ljubiša M. KOCIĆ, Elena BABACE*
- A4-2 RANDOM SYNTHESIS OF PIECEWISE CUBIC INTERPOLANTS  
*Ljubiša M. KOCIĆ, Sonja GEGOVSKA-ZAJKOVA, Vesna ANDOVA*



- A4-3 MODELING AND SIMULATION OF A QUADROTOR HELICOPTER  
***Leonid DJINEVSKI, Dimitar TRAJANOV***
- A4-4 КОНЦЕПТ ЗА МОДЕЛИРАЊЕ И СИМУЛАЦИИ ВО СПРАВУВАЊЕТО СО КРИЗНИ СИТУАЦИИ  
***Славко АНГЕЛЕВСКИ, Југослав АЧКОВСКИ, Невена СЕРАФИМОВА***
- A4-5 WATEN-NOV PRISTAP VO PROEKTIRANJE NA SISTEM VO VOZDUSNI PRAVCI  
***Ilir MEHMEDI***
- A4-6 СИСТЕМИ ЗА УПРАВУВАЊЕ СО СООБРАЌАЈОТ НА АЕРОДРОМСКИТЕ ОПЕРАТИВНИ ПОВРШИНИ  
***Томислав ТУНТЕВ***

# ИНФОРМАТИКА – INFORMATICS

САБОТА – SATURDAY, 26. IX 2009

СЕСИЈА - SESSION I – 1: НАПРЕДНИ ВЕБ ТЕХНОЛОГИИ И АПЛИКАЦИИ –  
ADVANCED WEB TECHNOLOGIES AND APPLICATIONS

17:15 – 18:45

Претседавачи – Co-Chairs: **Соња Филипоска и Сузана Лошковска**

- 11-1 BRAINSTORMING – WEB БАЗИРАНА АЛАТКА ЗА ЛАТЕРАЛНО  
РАЗМИСЛУВАЊЕ  
***Дејан ЗДРАВКОВСКИ, Димитар ТРАЈАНОВ***
- 11-2 CREATIVITY SUPPORT TOOL – CONCEPT FAN WITH GOOGLE  
SERVICES  
***Vane SPASOV, Dejan RISTEVSKI, Dimitar TRAJANOV***
- 11-3 ПРЕГЛЕД НА ПРОЕКТИТЕ ЗА РАЗВОЈ НА ТЕХНОЛОГИИТЕ НА  
СЕМАНТИЧКИОТ ВЕБ  
***Милош ЈОВАНОВИЌ, Димитар ТРАЈАНОВ***
- 11-4 ВЕБ АПЛИКАЦИЈА ЗА ДИЈАГНОЗА НА БОЛЕСТИ  
***Горан ЦВЕТКОСКИ, Иван ЧОРБЕВ, Драган МИХАЈЛОВ***
- 11-5 ГЕНЕРИРАЊЕ НА RDF ОД РАЗНИ WEB РЕСУРСИ КАКО ПОДГОТОВКА  
ЗА СЕМАНТИЧКИ WEB  
***Стојан ТРАЈАНОВСКИ***

НЕДЕЛА - SUNDAY, 27. IX. 2009

СЕСИЈА - SESSION I - 2: КОМПЈУТЕРСКИ МРЕЖИ – COMPUTER NETWORKS  
09:00 – 10:30

Претседавачи – Co-Chairs: **Аксенти Грнарлов и Димитар Трајанов**

- 12-1 КРЕИРАЊЕ НОВ МОДУЛ ЗА РУТИРАЊЕ ВО МРЕЖЕН СИМУЛАТОР  
***Elisaveta MATOVSKA, Goce DOKOSKI, Aristotel TENTOV***
- 12-2 RICH CLIENT GRID SYSTEM ARCHITECTURE USING WEB  
TECHNOLOGIES  
***Riste STOJANOV***
- 12-3 HETEROGENEOUS EPIDEMIOLOGIC INFLUENCE SPREADING MODELS  
IN COMPLEX NETWORKS  
***Sasho GRAMATIKOV, Dimitar TRAJANOV, Ljupco KOCAREV***
- 12-4 АНАЛИЗА НА ВЛИЈАНИЕТО НА ОБЛИКОТ НА ТЕРЕНОТ ВРЗ  
ПЕРФОРМАНСИТЕ НА КЛАСТЕРИРАНИ АД ХОК МРЕЖИ  
***Марија ВУЧКОВИЌ, Соња ФИЛИПОСКА, Димитар ТРАЈАНОВ***

- 12-5 NETWORK UTILITY MAXIMIZATION IN AD HOC NETWORKS WITH DIFFERENT COMMUNICATION PATTERNS  
**Miroslav MIRCHEV, Sonja FILIPOSKA, Nikola TRAJKOVSKI, Dimitar TRAJANOV**

**ПОНЕДЕЛНИК - MONDAY, 28. IX 2009**

**СЕСИЈА - SESSION I - 3: ИНФОРМАЦИОНИ СИСТЕМИ – INFORMATION SYSTEMS**

**08:30 – 10:00**

Претседавачи – Co-Chairs: **Аристотел Тентов и Иван Чорбев**

- 13-1 BRINGING UP-TO-DATE THE PRINCIPLES OF THE I.DB.I. ARTERY  
**Radoslav YOSHINOV**
- 13-2 FEATURES AND SECURITY ASPECTS OF HEFES ADMINISTRATOR SUBSYSTEM  
**Predrag PECEV**
- 13-3 VERSION CONTROL WITH SUBVERSION - RUNNING UNIT AND ACCEPTANCE TESTS  
**Aneta MIRCESKA**
- 13-4 КОРИСТЕЊЕ НА БАНКОМАТИ КАКО УРЕДИ ЗА НЕТРИВИЈАЛНИ УСЛУГИ  
**Катерина РИСТЕВСКА, Иван ИВАНОВСКИ, Владимир ТРАЈКОВИЌ**
- 13-5 СЕРВИСИ ЗА ПОСРЕДУВАЊЕ ВО ПЕРСОНАЛНИ МРЕЖИ  
**Горан АРСОВСКИ, Ристе МАРЕВСКИ, Владимир ТРАЈКОВИЌ**
- 13-6 OFFICE КОНВЕРТОРИ  
**Методија АНЃЕЛКОСКИ**

**СЕСИЈА - SESSION I - 4: МОДЕЛИРАЊЕ И СИМУЛАЦИЈА – MODELLING AND SIMULATION**

**15:00 – 16:30**

Претседавачи – Co-Chairs: **Аристотел Тентов и Сашко Целаковски**

- 14-1 APPLICATION OF RADICAL THEORY FOR FINDING PROTO-PHENOMENA IN ONE UNIT 1-D SPACE AND GREATEST HAMILTONIAN  
**Blerita PREVALLA, Ivana STOJANOVSKA, Biljana PERCINKOVA**
- 14-2 МЕТОДОЛОГИЈА НА МЕНАЏМЕНТ НА РИЗИК ЗА ХИДРОГЕНЕРАТОР  
**Невенка КИТЕВА, Вангел ФУШТИЌ**
- 14-3 SPATIOTEMPORAL MODELING AND DATABASE IMPLEMENTATION OF MOVING OBJECTS  
**Perihan KILIMCI**

- 14-4 FINDING PERETO OPTIMAL RESOURCE ALLOCATIONS: A CASE STUDY IN ANSWER SET PROGRAMMING

***Mito BELOPETA***

- 14-5 ВИЗУЕЛИЗАЦИЈА КАКО АЛАТКА ЗА АНАЛИЗА НА ПОДАТОЦИ

***Снежана САВОСКА, Сузана ЛОШКОВСКА***

**СЕСИЈА - SESSION 1 - 5: ПРЕПОЗНАВАЊЕ НА ОБЛИЦИ И МАШИНСКА ИНТЕЛИГЕНЦИЈА – PATTERN RECONGNITION AND MACHINE INTELIGENCE**  
**17:00 – 18:30**

Претседавачи – Co-Chairs: **Дејан Ѓорѓевиќ и Иван Чорбев**

- 15-1 COMBINING CRITERIA OBTAINED FROM WITHIN-CLASS AND BETWEEN-CLASS SCATTERS

***Mehmet KOЏ, Atalay BARKANA***

- 15-2 CONCEPTUAL CLUSTERING OF DATA FROM THYROID DATABASE

***Cveta MARTINOVSKA***

- 15-3 THE GEOMETRIC INTERPRETATION OF THE COMMON VECTOR APPROACH

***Atalay BARKANA, Mehmet KOЏ***

- 15-4 ХИЕРАРХИСКА КЛАСИФИКАЦИЈА НА ВИДЕО ПОДАТОЦИ

***Ѓорѓи МАЏАРОВ, Ивица ДИМИТРОВСКИ, Сузана ЛОШКОВСКА, Дејан ЃОРЃЕВИЌ***

- 15-5 BAYESIAN NETWORKS APPLICATION FOR VISUALIZATION AND STRUCTURE LEARNING OF GENE REGULATORY NETWORKS

***Blagoj RISTEVSKI, Suzana LOSKOVSKA***

- 15-6 TEXTURE-BASED DESCRIPTORS APPLIED TO MAGNETIC RESONANCE IMAGES

***Katarina TROJACANEC, Ivica DIMITROVSKI, Suzana LOSKOVSKA***

# ИНФОРМАТИКА И ЕЛЕКТРОНИКА – МЕШАНИ СЕСИИ INFORMATICS AND ELECTRONICS – MIXED SESSIONS

САБОТА – SATURDAY, 26. IX 2009

СЕСИЈА - SESSION IE – 1: ЕДУКАЦИЈА ВО ОБЛАСТИТЕ ЕТАИ – EDUCATION IN  
ETA1 FIELDS

17:15 – 18:45

Претседавачи – Co-Chairs: **Зоран Ивановски и Димитар Трајанов**

- IE1-1 IEEE - НЕГОВИТЕ ПРВИ 125 ГОДИНИ  
*Гоце АРСОВ, Владимир ДИМЧЕВ, Љубомир НИКОЛОСКИ*
- IE1-2 SYSTEM ON CHIP DESIGN: NEW HARMONIZED MASTER STUDIES  
CURRICULUM IN MACEDONIA AND SERBIA  
*Predrag PETKOVIĆ, Dimitar TRAJANOV, Aksenti GRNAROV, Vančo LITOVSKI*
- IE1-3 ПРЕГЛЕД НА ПОТРЕБАТА ОД НЕТЕХНИЧКИ ВЕШТИНИ ВО  
ИНЖЕНЕРСКОТО ОБРАЗОВАНИЕ И НА РАБОТНОТО МЕСТО  
*Војдан КАРДАЛЕВ, Милош ЈОВАНОВИЌ, Димитар ТРАЈАНОВ*
- IE1-4 „СЕРИОЗНИ ИГРИ” - ПРИМЕНА НА ТЕХНОЛОГИЈАТА НА  
КОМПЈУТЕРСКИ ИГРИ ВО ВОЕНОТО ОБРАЗОВАНИЕ И ОБУКА  
*Славко АНГЕЛЕВСКИ, Невена СЕРАФИМОВА, Димитар БОГАТИНОВ*
- IE1-5 A VIRTUAL INSTRUMENT FOR HIGHLY CONCENTRATED TIME-  
FREQUENCY DISTRIBUTIONS  
*Irena OROVIĆ, Nikola ŽARIĆ, Milica ORLANDIĆ, Srdjan STANKOVIĆ*

ВТОРНИК - TUESDAY, 29. IX 2009

СЕСИЈА - SESSION IE – 2: ВГРАДЛИВИ МИКРОКОМПЈУТЕРСКИ СИСТЕМИ И  
КОМПЈУТЕРСКИ АРХИТЕКТУРИ – EMBEDDED SYSTEMS AND COMPUTER  
ARCHITECTURE

09:00 – 10:30

Претседавачи – Co-Chairs: **Јосиф Ќосев и Аристотел Тентов**

- IE2-1 RTL ОПИС, СИНТЕЗА И СИМУЛАЦИЈА НА ИНТЕЛЛОВИОТ  
МИКРОПРОЦЕСОР 8085  
*Александар СИМЕВСКИ, Аристотел ТЕНТОВ*
- IE2-2 OPTIMIZED IMPLEMENTATION OF ADAPTED CANNY EDGE DETECTION  
ALGORITHM ON EMBEDDED PLATFORM  
*Marjan DRNDAREVSKI, Josif KJOSEV, Zoran IVANOVSKI*
- IE2-3 ЕКОНОМИЧЕН ПРИСТАП ЗА ГРАДБА НА ВГРАДЛИВ  
МИКРОКОМПЈУТЕРСКИ СИСТЕМ НАМЕНЕТ ЗА РАБОТА ВО IFSF LON  
ПОДАТОЧНА МРЕЖА  
*Владица САРК, Јосиф ЌОСЕВ, Марио МАКРАДУЛИ*
- IE2-4 NETWORK PROCESSORS: EVOLUTION AND TRENDS  
*Danijela JAKIMOVSKA, Goce DOKOSKI, Aristotel TENTOV, Marija  
KALENDAR*

IE2-5 ORDERING THE LOWER BOUND OF PROCESSOR ELEMENTS FOR LU AND QR FACTORIZATION

***Halil SNOПCE, Aksenti GRNAROV***

IE2-6 МЕТОДИ ЗА ДЕБАГИРАЊЕ АПЛИКАЦИИ ИЗВЕДЕНИ СО МИКРОКОНТРОЛЕРИТЕ PIC

***Благој КУПЕВ, Љупчо КАРАЦИНОВ***

IE2-7 МИКРОКОНТРОЛЕРСКИ СИСТЕМ ЗА GSM УПРАВУВАЊЕ НА ЕЛЕКТРИЧНА БРАВА

***Апостол ПАЛАЗОВ, Љупчо КАРАЦИНОВ***

**СЕСИЈА - SESSION IE – 3: ПРОЦЕСИРАЊЕ НА СИГНАЛИ – SIGNAL PROCESSING**

**11:00 – 12:30**

Претседавачи – Co-Chairs: **Димитар Ташковски и Сузана Лошковска**

IE3-1 СЕГМЕНТАЦИЈА НА ГОВОРНИ СЕКВЕНЦИ НА МАКЕДОНСКИ ЈАЗИК  
***Иван КРАЉЕВСКИ, Славчо ЧУНГУРСКИ, Симе АРСЕНОВСКИ, Зоран ГАЦОВСКИ***

IE3-2 IMPROVEMENT OF SOUND HEARING QUALITY FOR PERSONS WITH HEARING DAMAGES

***Ferid SOFTIĆ, Zlatko BUNDALO***

IE3-3 ЕВАЛУАЦИЈА НА TTS-МК СИСТЕМОТ ЗА СИНТЕЗА НА ГОВОР НА МАКЕДОНСКИ ЈАЗИК

***Славчо ЧУНГУРСКИ, Иван КРАЉЕВСКИ, Драган МИХАЈЛОВ, Симе АРСЕНОВСКИ***

IE3-4 УСОВРШЕН АЛГОРИТАМ ЗА ОДРЕДУВАЊЕ НА ФРАКТАЛНАТА ДИМЕНЗИЈА НА СЛИКА

***Сања ВЕЛЕВА, Лилјана СТЕФАНОВСКА***

IE3-5 RECONSTRUCTION OF THREE-DIMENSIONAL OBJECTS FROM PARALLEL PLANAR SECTIONS – IMPLEMENTATION AND EXPERIMENTS FOR THE TILING PROBLEM

***Catalin TUDOSE***

IE3-6 COMPARATIVE ANALYSIS OF WAVELET BASED PROTEIN DESCRIPTORS

***Ivana CINGOVSKA, Georgina MIRCEVA, Slobodan KALAJDZISKI, Danco DAVCEV***

# ПОСТЕР СЕСИИ – POSTER SESSIONS

ПОНЕДЕЛНИК - MONDAY, 28. IX 2009

СЕСИЈА - SESSION P – 1: ПОСТЕР СЕСИЈА ЕЛЕКТРОНИКА И ТЕЛЕКОМУНИКАЦИИ – POSTER SESSION ELECTRONICS AND TELECOMMUNICATIONS

15:00 – 16:30

Претседавачи – Co-Chairs: **Зоран Ивановски и Александар Ристески**

- P1-1 ИМПЕДАНСЕН МОДЕЛ НА СОНЧЕВИ КЕЛИИ TIO<sub>2</sub>/CIS  
**Ласко БАСНАРКОВ, Маргарита ГИНОВСКА, Христина СПАСЕВСКА**
- P1-2 FPGA REALIZATION OF TIME-FREQUENCY DISTRIBUTION WITH COMPLEX-LAG ARGUMENT  
**Nikola ŽARIĆ, Irena OROVIĆ, Milena ZOGOVIĆ, Srdjan STANKOVIĆ**
- P1-3 COMPARISON OF THE FULL BRIDGE PSPWM DC-DC CONVERTERS  
**A. Faruk BAKAN, İsmail AKSOY, Nihan ALTINTAŞ, Hacı BODUR**
- P1-4 ПРЕЗЕНТАЦИЈА НА РАЗВОЈОТ БИРОТО ЗА МЕТРОЛОГИЈА КОН НАУЧНАТА МЕТРОЛОГИЈА  
**Данчо ПЕНДОВСКИ**
- P1-5 СЕГМЕНТАЦИЈА НА ГОВОР БАЗИРАНА НА НЕДИЦИМИРАНАТА ВЕЈВЛЕТ ТРАНСФОРМАЦИЈА  
**Бранислав ГЕРАЗОВ, Момчило БОГДАНОВ, Зоран ИВАНОВСКИ**
- P1-6 ЕКОНОМИЧЕН УРЕД ЗА ИСПИТУВАЊЕ НА СЕНЗОРИ ЗА ВИБРАЦИИ  
**Лазо ДИМИТРИЕВСКИ, Јосиф КОСЕВ**
- P1-7 ДИРЕКТНАТА ДИГИТАЛНА СИНТЕЗА НА СИГНАЛИ СО МИКРОКОНТРОЛЕРИТЕ PICMICRO НА MICROCHIP  
**Зоран НИКОЛОВСКИ, Љупчо КАРАЏИНОВ**
- P1-8 DRIVE TRANSFORMER DESIGN FOR PHASE SHIFT PWM DC-DC CONVERTERS  
**A. Faruk BAKAN, Hidayet İŞBİLİR, İsmail AKSOY, Nihan ALTINTAŞ, Hacı BODUR**
- P1-9 WIRELESS MULTIMEDIA SENSOR NETWORKS - A TREND TOWARDS PERVASIVE AND UBIQUITOUS COMPUTING  
**Filipo SAREVSKI**
- P1-10 OVERVIEW OF ADVANCED DATA LINK LAYER MECHANISMS IN WIRELESS SENSOR AND MOBILE AD HOC NETWORKS  
**Elena TODOROSKA, Filipino SAREVSKI**
- P1-11 УПРАВУВАЊЕ СО КОРИСНИЧКО ИСКУСТВО И NGOSS РАМКА  
**Бојанчо МИТЕВ, Јасмина БУЈАРСКА**
- P1-12 WIENER ДИФУЗЕН ПРОЦЕС  
**Симона ТРАЈЧЕСКА**

P1-13 МЕРЕЊЕ НА ЕЛЕКТРОМАГНЕТНОТО ЗРАЧЕЊЕ ОД БАЗНИ СТАНИЦИ ВО УРБАНИ СРЕДИНИ

*Леонид ГРЧЕВ, Марија КАЦАРСКА, Весна АРНАУТОВСКИ-ТОШЕВА, Спасе ПЕТКОСКИ, Љупчо КАРАЈАНОВСКИ*

**СЕСИЈА - SESSION P – 2: ПОСТЕР СЕСИЈА АВТОМАТИКА И ИНФОРМАТИКА – POSTER SESSION AUTOMATICS AND INFORMATICS**

**17:00 – 18:30**

Претседавачи – Co-Chairs: **Цветко Ј. Андреески и Иван Чорбев**

P2-1 MANAGING HOME APPLIANCES AND LIGHT FIXTURES BY X10 PROTOCOL

*Zdravko IVANKOVIĆ, Branko MARKOSKI, Ivana BERKOVIC, Zeljko STOJANOV, Dalibor DOBRILOVIC*

P2-2 EXTENSION OF THE INFORMATION SYSTEM FOR OPERATIONAL ACTIVITY ORGANIZATION FOR CONFIGURATION MANAGEMENT IN KOZLODUY NPP

*Bogomil MANCHEV, Vania YORDANOVA, Boyka NENKOVA*

P2-3 РЕКОНСТРУКЦИЈА НА БАГЕР ESH 10/70

*Дејан БЕЛЕВСКИ, Димитар АРСОВ*

P2-4 СИМУЛАЦИЈА НА ИНВЕРТИРАНО НИШАЛО И ИДЕНТИФИКАЦИЈА СО НЕВРОНСКИ МРЕЖИ

*Александар АРСОВСКИ, Миле СТАНКОВСКИ*

P2-5 CHAOTIC WEB SIMULATION LABORATORY APPLICATION

*Metin VARAN, Yilmaz UYAROĞLU, Zekeriya ÖZDEMİR, Fahri VATANSEVER, Mehmet Ali YALÇIN*

P2-6 ИНСТРУКЦИИ ЗА ДИНАМИКАТА И ВИБРАЦИИТЕ КАЈ МОТОРИТЕ СО ВНАТРЕШНО СОГОРУВАЊЕ

*Елениор НИКОЛОВ, Даме КОРУНОСКИ, Кочо АНЃУШЕВ*

P2-7 ПРОТОТИП АПЛИКАЦИЈА ЗА Е-АРХИВ

*Југослав АЧКОСКИ, Славко АНГЕЛЕВСКИ, Димитар БОГАТИНОВ*

P2-8 INFLUENCE AND IMPORTANCE OF USERS MOTIVATION IN DISTANCE LEARNING

*Marjana PARDANJAC, Snežana JOKIĆ, Dragica RADOSAV*

P2-9 DYNAMIC MODEL OF THE PHOSPHORUS CONCENTRATION IN LAKE PRESPA

*Andreja NAUMOSKI, Kosta MITRESKI*

P2-10 IDENTITY MANAGEMENT AND MICROSOFT CARDSPACE

*Marko NIKOLOVSKI, Goran GAJDUK, Dimitar SOPOVSKI, Dimitar TRAJANOV*

P2-11 SURVEY OF OPEN SOURCE LEARNING MANAGEMENT SYSTEMS

*Ivana DONEVSKA, Ilinka IVANOSKA, Dimitar TRAJANOV*

P2-12 КАРАКТЕРИСТИКИ НА СИМУЛАЦИСКИОТ ПАКЕТ ВИРТУЕЛНО БОЈНО ПОЛЕ (VBS) И МОЖНОСТИ ЗА ПРИМЕНА ВО ВОЕНОТО ОБРАЗОВАНИЕ И ОБУКА

*Димитар БОГАТИНОВ, Славко АНГЕЛЕВСКИ, Невена СЕРАФИМОВА*



P2-13 IMPLEMENTATION OF CONSTRAINED TEXT GENERATION BASED ON A WORD N-GRAMS MARKOV MODEL

***Gjorgji KJOSEV***

P2-14 УПОТРЕБА НА WEB СЕРВИСИ ВО МЕДИЦИНСКИ АПЛИКАЦИИ КАЈ МОБИЛНИ УРЕДИ

***Владимир АЛЕКСОВ, Иван ЧОРБЕВ, Драган МИХАЈЛОВ***

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Вкупното време за презентација на еден труд е 15 минути (10-12 минути за презентација и 3-5 минути за дискусија и прашања).

Постер презентациите од првата постер сесија (P1) треба да се изложени и еден час пред почетокот на сесијата. Постер презентациите од втората постер сесија (P2) треба да се изложени и еден час по крајот на сесијата.

Total time per paper presentation is 15 minutes (10-12 minutes for presentation and 3-5 minutes for discussion and questions).

Poster presentations from the first poster session (P1) should be on display one hour before the start of the session. Poster presentations from the second poster session (P2) should be on display one hour after the end of the session.

# Multi-Conference ETAI-AAS-DECOM 2009

## Technical Programme of AAS-ETAI-09

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The 5<sup>th</sup> Triennial ETAI International Conference on  
**APPLIED AUTOMATIC SYSTEMS (AAS) 2009**

**Metropol Hotel Resort, Ohridean Riviera, R. Macedonia, September 26-29,  
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Peter Korondi (HU)  
Andreas Kugi (AT)  
Honghai Liu (UK)  
Mohamed Mansour (CH)  
Frédérique Mayer (TC9.2, FR)  
Ruben Morales Menendez (MX)

Cedomor Milosavljevic (RS, B-H)  
Laszlo Monostori (HU)  
Shimon Y. Nof (US)  
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## SCOPE

The AAS series has been initiated after the 1993 IFAC World congress and, to a certain feasible extent, these mimic both the IFAC WC and the IEEE multi-conferences on Computational Intelligence, Systems and Control, and Systems-Man-Cybernetics.

These take place in the Balkans, in its centrally located country the Republic of Macedonia, the region of developing countries in Europe. The focus is put on applied automation, computation, communication, and control for infrastructure systems because of their crucial role in the economy and the overall development of contemporary societies.

Papers are solicited within the scope of *the main themes* of AAS series around *the infrastructure systems with the emphasis on their automation and control*. We welcome papers in all areas of Automation and Control of Infrastructure Systems: in methods and models of control, decision, management and supervision; in their cross-boundary impact and role in all applications to computing, communications, power and water supply, transportation, biotechnology and the related industries and services; as well as in enhancing the education and the international scientific and technological co-operation.

## TOPICS OF SPECIAL INTEREST

Automation, Control and Supervision of Electrical Energy and Power Systems; Automation, Control and Supervision of Thermal Energy and Power Systems; Automation, Control and Supervision of Telecommunication Systems; Automation, Control and Supervision of Transportation Systems; Applied Controls in Manufacturing, Mechatronic, and Robotic Systems; Automation of Flexible Manufacturing Systems; Applied Controls in Industrial and Power Electronics; Applied Controls in Electrical Drives and Machines; Controlling Automated and Parallel Computation; Control Problems and Protocols in Internet Technologies; Control Problems in Networking and Wireless Communications; Systems and Control in Biomedicine and Biotechnology; Control and Management of Water Resources and Water Supply Systems; Control and Management of Ecosystems; Automation, Control and Supervision of Public Service Buildings; Applied Analytical and Intelligent System Methodologies for Estimation and Identification; Design and Implementation of Math-Analytical and Intelligent Controls; Control Computing and Applications Software; Integrated Control and Supervision Systems; Synergy of Analytical & Soft-Computing Approaches to Control, Supervision and Management; Synergy of Fuzzy Systems and Neural Networks in Applications; Synergy of Fuzzy Systems and Petri Networks in Applications; Sensing, Scanning, and Signal Processing with Applications; Technology Innovation in Industrial Control and Automation Infrastructure; Building the Infrastructure for Internet-based Business and Management; Applied Financial Systems Engineering; Upgrading Education, Continuing Education and Re-training; Technology Management, Impact of Technology on Society, and Social Responsibility.

## COPYRIGHT CONDITIONS

The material proposed for the ETAI series of International Conferences on Applied Automatic Systems must be original, not published or being considered elsewhere. All papers shall be peer reviewed. All the papers accepted for presentation will appear in an edited volume of the AAS Proceedings series, with an ISBN code, and will be distributed to the registered participants upon arrival. Papers duly presented at AAS 2009, noticed as 'high quality contributions', shall be recommended for publication in several refereed journals, as appropriate.

**Copyright of research papers presented at AAS 2009 is shared by the Authors and the Society of ETAI**, following the Society's general policy to enable the authors also to publish their work in a journal of their own choice.

## REGISTRATION FEES

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## LOCATION

Country Macedonia at large can be traced back for millennia and as far as the times of the Bible. It is said in there, *St. Paul the Apostle* went to preach in Macedonia and Greece among Greeks and Macedonians during his first journey out of Asia. Both early Slavic alphabets *Glagolyca* and *Kyrilyca* as well as first literature in Old-Slavic *language* have their roots in Macedonia. In particular, the 10-th century *Ohridean School of Old-Slavic Letters and Theology of St. Clement* should be noted because it operated at the time when across Europe no university institution existed. Hence this country is a veritable treasury of culture and traditions. Many have named Ohridean Lake "A pearl of the Balkans" and Ohrid "Jerusalem of the Balkans", largely preserved during long ruling and big Roman, Byzantine, and Ottoman Empires. The City and the region are enlisted in UNSECO world's heritage of the mankind. For they abound in natural, cultural, and spiritual beauties, as well as they host festivals of music, literature, and fine arts.

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## AAS-09

SUNDAY, 27. IX 2009

### SESSION **AAS- 1:** COMPLEX HYBRID AND NETWORK SYSTEMS

*First Macedonian Professor of Automatic Control & Computing Machines:  
A Tribute to Dr Pane Vidincev*

**09:00 – 10:30**

Co-Chairs: **G. M. Dimirovski and T. D. Kolemisevska-Gugulovska**

- CHS-1/A12 CONSIDERING TRANSFER OF SIGNALS THROUGH HYBRID FRACTIONAL-ORDER HOMOGENEOUS STRUCTURE  
**Katica HEDRIH (STEVANOVIC)**
- CHS-2/A2 DESIGN OF SWITCHING  $H_\infty$  CONTROLLERS FOR NETWORKED CONTROL SYSTEMS  
**Dan MA, Jun ZHAO, T. D. KOLEMISEVSKA-GUGULOVSKA, G. M. DIMIROVSKI**
- CHS-3/A23 DYNAMIC OUTPUT FEEDBACK SYNTHESIS FOR NONLINEAR SYSTEMS VIA T-S FUZZY MODELS: LMI BASED APPROACH  
**Zhaona CHEN, Yuanwei JING, M. J. STANKOVSKI, G. M. DIMIROVSKI**
- CHS-4/A24 UNCERTAIN SWITCHED LINEAR TIME-DELAY SYSTEMS: ROBUST STABILITY AND L2-GAIN ANALYSIS  
**Shi-Lu DAI, V. M. OJLESKA, Jun ZHAO, G. M. DIMIROVSKI**
- CHS-5/A26 DECOMPOSITION BASED TERMINAL SLIDING MODE CONTROL OF A TYPE OF NONLINEAR SYSTEMS  
**Minxiu YAN, Yuanwei JING, G.S. STOJANOVSKI, G. M. DIMIROVSKI**
- CHS-6/A25 ROBUST QUADRATIC STABILIZATION OF T-S FUZZY SYSTEMS WITH UNCERTAINTIES: LMI BASED APPROACH  
**Zhaona CHEN, Yucheng ZHOU, Yuanwei JING, B. MILEVA-BOSHKOSKA, G. M. DIMIROVSKI**

MONDAY, 28. IX 2009

### SESSION **AAS - 2:** APPLIED COMPUTER PROCESS CONTROL SYSTEMS

**8:30 – 10:00**

Co-Chairs: **E. Uyar – J. B. Lewoc**

- ACC-1/A14 APPLICATIONS OF LASER SCANNING VIA 'YAKARTARAR' SOFTWARE  
**Engin TOKLU, Erol UYAR**
- ACC-2/A4 EXEMPLARY POLISH POWER SYSTEM CONTROL ICT SOLUTIONS  
**J. B. LEWOC, A. IZWORSKI, S. SKOWRONSKI, A. KIELECZAWA**
- ACC-3/A19 PERFORMANCE EVALUATION OF NEURAL NETWORK FILTER FOR USE IN POSITION TRACKING OF AN AUTONOMOUS UNDERWATER VEHICLE  
**Serhat IKIZOGLU, M. Ufuk ALTUNKAYA, Fikret GURGEN**

ACC-4/A9 INNOVATIVE APPROACH TO IDENTIFY ENERGY AND WATER SAVINGS IN MUNICIPALITY FACILITIES IN ALBANIA  
**Orion ZAVALANI**

**SESSION AAS - 3: HUMANS AND MEDICAL ROBOTICS**  
**15:00 – 16:30**

Co-Chairs: **N. Haberland – A. Popandreeva**

HMS-1/A7 SPINAL NAVIGATION WITH 3D IMAGING AS ROUTINE TOOL IN SPINE SURGERY

**Niels HABERLAND**

HMS-2/A13 ROBOTIZED MEDICAL CENTER

**D. KARASTOYANOV, T. BOYADJIEV, G. BOYADJIEV**

HMS-3/A18 HUMAN GAIT ANALYSIS USING COMPUTER VISION

**N.E. TOKLU, F.I. BALBOZAN, O. KESKIN, E. UYAR**

HMS-4/A20 UML APPROACH FOR DEVELOPMENT OF THE SOFTWARE SYSTEM FOR ASSESSMENT OF PERCEPTION ABILITIES

**Anelia POPANDREEVA**

**TUESDAY, 29. IX 2009**

**SESSION AAS - 4: MANAGEMENT DECISIONS AND CONTROL**  
**09:00 – 10:30**

Co-Chairs: **E. Duman and A.H. Zaim**

MDC-1/ A11 DEFINING A NEW VARIANT OF THE TRAVELLING SALESMAN PROBLEM

**Ekrem DUMAN, Ali F. KAYA**

MDC-2/A17 AN APPLICATION AND SOLUTION TO GATE ASSIGNMENT PROBLEM FOR ATATURK AIRPORT

**H. M. GENC, O. K. EROL, I. EKSIN**

MDC-3/A10 AN EFFICIENT ALGORITHM FOR 3D RECTANGULAR BOX PACKING

**M. Zahid GURBUZ, Selim AKYOKUS**

MDC-4/A6 THE CALCULATION OF ADJUSTABLE WINDOW PARAMETERS WITH HELPING GA

**Turgay KAYA, Melih Cevdet INCE**

MDC-5/A15 THE INFLUENCE OF SELF-SIMILARITY ON AGGREGATION NETWORK TELETRAFFIC

**Evgeniya GOSPODINOVA, Nina SINYAGINA, I. PAVLOVA**

MDC-6/A22 DOCUMENT SEARCHING AND MATCHING ON UNSTRUCTURED TURKISH DOCUMENTS

**Mehmed A. ERTURK, A. Halim ZAIM, Selim AKYOKUS**

**SESSION AAS - 5: TECHNOLOGICAL SYSTEMS AND CONTROL**

**11:00 – 12:30**

Co-Chairs: **A. Polyakov and M.J. Stankovski**

- TSC-1/A3 AN INTELLIGENT APPROACH TO CONTROL RESPIRATION RATE AND TIDAL VOLUME FOR MECHANICAL VENTILATION  
***Hasan GULER, Fikret ATA***
- TSC-2/A5 AN ADAPTIVE SINGLE NEURON BASED CONTROL APPLICATION TO A BATCH REACTOR  
***M. ALPBAZ, G. OZKAN, H. HAPOGLU, S. CAMCIOGLU***
- TSC-3/A30 AN OVERVIEW OF RADIAL BASIS NEURAL NETWORK FOR SENSOR ARRAY APPLICATION  
***Maja SAREVSKA, Nikos MASTORAKIS***
- TSC-4/A8 A NUMERICAL SOLVING ALGORITHM FOR POLYNOMIAL EQUATION SYSTEMS  
***Alexandr POLYAKOV***
- TSC-5/A21 MIN-MAX MODEL PREDICTIVE CONTROL: A THEMATIC SURVEY  
***G. S. STOJANOVSKI, M. J. STANKOVSKI, T. D. KOLEMISEVSKA-GUGULOVSKA, G. M. DIMIROVSKI***

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Total time per paper presentation is 15 minutes (10-12 minutes for presentation and 3-5 minutes for discussion and questions).



# Multi-Conference ETAI-AAS-DECOM 2009

## Technical Programme of DECOM-IFAC-09

<http://decom09.feit.ukim.edu.mk>

**AUTOMATION AND INFRASTRUCTURE: THE 6<sup>th</sup> IFAC WS  
ON KNOWLEDGE AND TECHNOLOGY TRANSFER IN/TO DEVELOPING  
COUNTRIES**

**Metropol Hotel Resort, Ohridean Riviera, R. Macedonia, September 26-29,  
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## SCOPE

The IFAC Organization, with regard to scientific and engineering topics of systems control and automation, has systematically and persistently addressed issues and problems of developing countries via a number of its activities. This series of IFAC events dedicated to knowledge and technology transfer to meet the needs of developing countries has been launched in response to the far-reaching consequences of the current globalization process. It has begun in South Africa with DECOM-TT 2000 in Pretoria, ZA, and continued with DECOM-TT 2001 in Ohrid, MK, DECOM-TT 2003 in Istanbul, TR, DECOM-TT in Bansko, BG, DECOM-TT 2007 in Cesme, TR, and now it came back to R. of Macedonia, which is a developing country in the region where continents Europe, Africa, and Asia are close to each other as well as where the East and the West meet. The actual needs as well as the problems are common to all developing countries in this region. The focus is put on automation and control for building infrastructure systems because of their crucial role in the overall development of contemporary societies in all respects.

Papers are invited within the scope of the main theme of IFAC DECOM-TT 2009 around the infrastructure systems with emphasis on their automation and optimised operation usage in the development of national economies. With regard to IFAC specified fields of interests within the main theme, papers are solicited in all areas of Applied Automation and Control of Infrastructure Systems, in Methods and Models of Applied Control, Decision, Management and Supervision as well as Knowledge and Technology Transfer in these areas. Also, papers on the cross-boundary impact and role of bridging existing gaps in communications, power and water supply, and transportation as well as in scientific and technological cooperation are welcome.

## TOPICS OF SPECIAL INTEREST

Challenges in Knowledge and Technology Exchange between academia and industry; Knowledge and Technology Transfer in/ to developing countries for sustainable development; Business and Economy Response to Knowledge and Technology Transfer in developing countries; Outsourcing and Stable Socio-economic and Societal Development of the third world; World-wide Outsourcing, Environment Preservation, and International Stability; Updating of Industrial Control Infrastructure and Appropriate Reshaping of Industrial Infrastructure; Applied Analytical and Soft-Computing System Engineering Methodologies; Applied Robotics and Automation of Manufacturing Systems; Automation, Control and Supervision in Agricultural Production; Automation, Control and Supervision of Public Service Buildings; Automation, Control and Supervision of Transportation Systems; Automation, Control and Supervision of Communication System Networks; Automation, Control and Supervision of Electrical Energy and Power Systems; Automation, Control and Supervision of Thermal Energy and Power Systems; Control and Management of Water Resources and Water Supply Systems; Control and Management of Environmental Systems in Natural Disasters; Control Education and Training; Management and Control of Environmental Impact. transportation as well as in scientific and technological cooperation are welcome.

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# DECOM-IFAC-09

SATURDAY, 26. IX. 2009

## SESSION D - 1: DECISIONS CONTROL AND MANAGEMENT: SPECIAL SESSION 17:15 – 18:45

Co-Chairs: **F. Kile and C. Andreeski**

- DCM-1/D67 HISTORY AS A RANDOM WALK – CAN WE ESCAPE RANDOMNESS?  
**Frederick KILE**
- DCM-2/D29 LATIN-AMERICAN HeDiSC NETWORK: AN INITIATIVE TO PROMOTE RESEARCH COLLABORATION FOR THE USE AND DEVELOPMENT OF FOSS FOR CONTROL SYSTEMS  
**Carlos MEZA, Vicente GONZALES, Juan FLOREZ**
- DCM-3/D62 KNOWLEDGE AND TECHNOLOGY TRANSFER IN DEVELOPING COUNTRIES: CASE STUDIES IN UBT-KOSOVA  
**Edmond HAJRIZI, Larry SAPLETON, Peter KOPACEK**
- DCM-4/ D57 THE FRAMEWORK OF INVESTMENTS FOR BUILDING AUTOMATION SYSTEMS IN ALBANIA  
**Orion ZAVALANI**
- ARV-1/D23 SOME DISTINCTIVE FEATURES OF THE CONTROL OF MANIPULATION ROBOT ON A MOVING BASE  
**Vladislav Yu. RUTKOVSKY, Viktor M. SUKHANOV, Viktor M. GLUMOV**
- DCM-6/D66 IDENTIFICATION AND FORECASTING FUTURE MORTALITY VALUES IN THE R.M. USING MLE  
**Cvetko ANDREESKI**
- DCM-7/D25 COST ORIENTED ROBOTS FOR DEVELOPING COUNTRIES: EXAMPLE KOSOVO  
**P. KOPACEK, R. SAFARIC, A. PAJAZITI, S. BUZA, I. GOJANI**

## SESSION D - 2: MECHATRONIC AND ROBOTIC SYSTEMS 17:15 – 18:45

Co-Chairs: **L. Goren Sumer and B. Veselic**

- MRS-1/D7 A MECHATRONIC MODULE OF LINEAR MOVEMENT BASED ON RODLESS PNEUMATIC CYLINDER WITH A MAGNETIC CONNECTION AND GAS-MAGNETIC BEARINGS  
**Evgeniy V. PASHKOV**
- MRS -2/ D45 HIGH-PRECISION DISCRETE-TIME TRACKING CONTROL SYSTEM DESIGN BASED ON COMBINATION OF CONVENTIONAL AND SLIDING-MODE CONTROLS  
**Boban VESELIC, Branislava PERUNICIC, Cedomir MILOSAVLJEVIC**
- MRS -3/D17 COMPLIANT FOUR BAR IMPACT MECHANISM  
**Emre SARIYILDIZ, Umut SONMEZ, Kadir PASLIOGLU**

- MRS -4/D47 POSITION AND VELOCITY ANALYSIS OF A POLYCENTRIC KNEE MECHANISM USED FOR TRANSFEMORAL AMPUTATION  
**Ozgun BASER, Levent CETIN, Erol UYAR, Aytac GOREN**
- MRS -5/D48 H-INF CONTROL OF A SINGLE PENDULUM GANTRY  
**Baran ALIKOC, Leyla GOREN SUMER**
- MRS -6/D21 CENTRALIZED CONTROL OF A MULTI-ROBOT SYSTEM  
**Onur KESKIN, Erol UYAR**

**SUNDAY, 27. IX 2009**

**SESSION D - 3: SIGNAL ANALYSIS AND PROCESSING**

**09:00 – 10:30**

Co-Chairs: **M. Stojcev and D. Jurcic**

- SAP-1/D4 FORMATION OF EQUIVALENT MODELS OF STRUCTURED MULTIRATE SYSTEMS IN THE FORM OF SIGNAL GRAPH  
**Vadim KRAMAR**
- SAP-2/D13 ADDRESS GENERATOR UNITS FOR BIDIRECTIONAL LINEAR PROCESSOR ARRAY  
**Mile K. STOJCEV, Tatjana R. NIKOLIC, Emina I. MILOVANOVIC, Igor Z. MILOVANOVIC**
- SAP-3/D19 ESTIMATION OF HURST STATISTICAL METHOD  
**Evgenija GOSPODINOVA**
- SAP-4/D58 SIMULATION OF LASER RADIO FREQUENCY SATELLITE COMMUNICATION SYSTEMS  
**Marketa MAZALKOVA**
- SAP-5/D56 SIMULATION OF AN ALGORITHM FOR VECTOR CONTROL OF AC MOTORS  
**Mario MAKRADULI, Metodija KAMILOVSKI**
- FDM-4/D34 FAULT DETECTION IN BRUSHLESS DC MOTORS  
**Pavle BOSHKOSKI, Bojan MUSIZZA, Janko PETROVIC, Djani JURCIC**

**SESSION D - 4: INDUSTRIAL AUTOMATION SYSTEMS**

**09:00 – 10:30**

Co-Chairs: **R. Moeller and S. I. Caramihai**

- IAS-1/D59 SERVICE ORIENTED COMMUNICATION MODEL FOR HEALTHCARE MONITORING BASED ON DEVICE PROFILE FOR WEB SERVICES  
**Ayman SLEMAN, Reinhardt MOELLER**
- IAS-2/D60 AN AGENT BASED APPROACH FOR URBAN TRAFFIC SIMULATION AND CONTROL  
**Simona Iuliana CARAMIHAI, Monica VOINESCU, Calin MUNTEANU, Ioan DUMITRACHE**

- IAS-3/D35 COLOURED AUTOMATION PETRI NETS BASED INTERLOCKING AND SIGNALIZATION DESIGN  
**M.S. DURMUS, M.T. SOYLEMEZ, E. AVSAROGULLRI**
- IAS-4/D50 MODELLING AND CONTROL OF SCANNER MECHANISM IN THERMAL IMAGING SYSTEMS  
**M. KALKAN, I. EKSIN, M. GOKASAN**
- IAS-5/D5 A CONTINUED CASE STUDY: AN APPROACH TO PUBLIC SERVICE BUILDING AUTOMATION  
**Jozef B. LEWOC, Antoni IZWORSKI, Slawomir SKOWRONSKI, Antonina KIELECZAWA, Georgi M. DIMIROVSKI**

**MONDAY, 28. IX 2009**

**SESSION D - 5: AUTONOMOUS ROBOTS AND VEHICLES**

**08:30 – 10:00**

Co-Chairs: **S. Garovac and M. Guzelkaya**

- DCM-5/D38 RATIO CONTROL PROBLEM IN INVENTORY CONTROL SYSTEMS  
**E.YESIL, C.E. UZUMCU, M. GUZELKAYA, I. EKSIN, T. KUMBASAR**
- ARV-2/D24 ONE APPROACH TO THE INTEGRATION OF LOW-COST STRAP-DOWN INERTIAL NAVIGATION SYSTEM AND GPS  
**Rade STANCIC, Stevica GRAOVAC**
- ARV-3/D39 AUTONOMOUS UNDERWATER VEHICLE: SEARCH AND APPROACH MISSIONS  
**Halil AKCAKAYA, Reha CAPUTCU, Leyla GOREN SUMER**
- ARV-4/D28 STATE ESTIMATION OF UNI-CYCLE MOBILE ROBOTS USING FUZZY DIFFERENTIAL EQUATIONS  
**Akram M. FAYEZ**
- ARV-5/D49 SENSOR DATA RELIABILITY AND TARGET HEADING IMPROVEMENT FOR AN AUTONOMOUS MOBILE ROBOT  
**Aytac GOREN, Erol UYAR, Georgi M. DIMIROVSKI**

**SESSION D - 6: CONTROL METHODS AND ARCHITECTURES**

**15:00 – 16:30**

Co-Chairs: **C. Milosavljevic and M. T. Soylemez**

- CMA-1/D20 UNIVERSAL H2 CONTROL  
**Jovan STEFANOVSKI**
- CMA-2/D55 ROBUST MIXED H2/H-INF LPV CONTROL OF UNCERTAIN LINEAR SYSTEMS WITH STATIC FEEDBACK  
**Yu cel AYDIN**
- MSM-3/D33 FAST CALCULATION OF ROBUST STABILIZING CONTROLLERS  
**Nevra BYHAN, Mehmet Turan SOYLEMEZ**
- CMA-4/ D44 SOME PRACTICAL PROBLEMS IN REALIZATIONS OF DISCRETE-TIME SLIDING-MODE CONTROLLED POSITIONAL SYSTEMS

**Cedomir MILOSAVLJEVIC, Branislava PERUNICIC, Boban VESELIC**

CMA-5/D71 A VARIABLE STRUCTURE CONTROL DESIGN FOR UNCERTAIN DISCRETE-TIME SYSTEMS

**Wenlin LI, Yuanwei JING, Georgi M. DIMIROVSKI**

CMA-6/D72 MIN-MAX CONTROL OF UNCERTAIN NONLINEAR SYSTEMS: A DESIGN VIA T-S FUZZY MODELS

**Georgi M. DIMIROVSKI, Yuanwei JING, Nan JIANG, Honghai LIU, Mile J. STANKOVSKI**

**SESSION D - 7: PROCESS CONTROL SYSTEMS**

**17:00 – 18:30**

C-Chairs: **M. J. Stankovski and T. D. Kolemisevska-Gugulovska**

PCS-1/D41 DECOUPLING CONSTRAINED MODEL PREDICTIVE CONTROL OF MULTI-COMPONENT PACKED DISTILLATION COLUMN

**Saniye AY, Suleyman KARACAN**

PCS-2/D6 VOLTERRA MODEL PREDICTIVE CONTROL OF A LYAPHILZATION PLANT: A NEWTON LIKE APPROACH

**Yancho TODOROV, Tsvetan TSVETKOV, Michail PETROV**

PCS-3/D10 Experimental Application of the Temperature Control in Polystrene Polymerization Reactor Using One-Step Ahead Neural Network Model Predictive Algorithm

**G. OZKAN, E. ETIKE, H. HAPOGLU, M. ALPBAZ**

PCS-4/D68 MIN-MAX MODEL PREDICTIVE CONTROL OF 20 MW INDUSTRIAL GAS FIRED FURNACE: CASE WITH DIRECT OUTPUT DISTURBANCES

**Goran S. STOJANOVSKI, Mile J. STANKOVSKI**

PCS-5/D53 GENERALIZED MODEL PREDICTIVE CONTROL PERFORMANCE ON CHEMICAL COAGULATION FOR TEXTILE DYE WASTEWATE

**C. PEKEL, Z. ZEYBEK, H. HAPOGLU, M. ALPBAZ**

PCS-6/D70 A FUZZY-NEURAL MODEL PREDICTIVE CONTROL STRATEGY FOR PUSHER REHEATING FURNACES

**Goran S. STOJANOVSKI, Wenlin LI, Yuanwei Jing, Georgi M. DIMIROVSKI**

**SESSION D - 8: FAULT DETECTION, MONITIRING AND CONTROL**

**17:00 – 18:30**

Co-Chairs: **I. Eksin and M. Kamilovski**

FDM-1/D51 CONSENSUS BASED DECENTRALIZED ESTIMATION APPLIED TO FAULT DETECTION AND ISOLATION

**Predrag R. TADIC, Milos S. STANKOVIC, Srgjan S. STANKOVIC, Zeljko M. GJUROVIC**

FDM-2/D63 MONITORING AND MODEL IDENTIFICATION FOR CONTROL OF ELECTRIC POWER SYSTEMS



- Petr KORBA**  
 FDM-3/D52 ONE APPROACH TO FAULT DETECTION IN STEAM TEMPERATURE CONTROL SYSTEM
- Goran S. KVASCEV, Zeljko M. GJUROVIC, Veljko D. PAPIĆ**  
 FDM-4/D40 FAULT TOLERANT CONTROL FOR NONLINEAR SYSTEMS: A SUPPORT VECTOR MACHINE APPROACH
- Ran ORTAC-KABAOGLU, Ibrahim EKSIN, Engin YESIL, Mujde GUZELKAYA**  
 FDM-5/D74 POWER GENERATION OEM SOURCING AND MANUFACTURING
- Thomas DUDA**

**TUESDAY, 29. IX 2009**

**SESSION D - 9: MODELS AND SOLVING METHODS**

**09:00 – 10:30**

Co-Chairs: **A. Polyakov and J. Stefanovski**

- MSM-1/D3 ALGORITHM OF NUMERICAL SOLVING OF THE NONLINEAR ALGEBRAIC EQUATIONS UNDER CONDITIONS OF ABSENCE OF INFORMATION ABOUT THE NEIGHBOURHOODS OF ROOTS  
**Alexandr POLYAKOV, Marina KOLESOVA, Michail KALININ, Petr SHTANKO**
- MSM-2/D30 POLYNOMIAL J-SPECTRAL FACTORIZATION METHOD FOR OPTIMAL CONTROL  
**Georgi M. DIMIROVSKI, Jovan D. STEFANOVSKI, Jun ZHAO**
- CMA-3/D22 COMPLEX OBJECT AND ITS CONNECTION WITH THE THEORY OF RELAY NON-STATIONARY SYSTEMS  
**Stanislav D. ZEMLYAKOV, Dmitriy A. KRIVORUCHKO**
- MSM-4/D27 NUMERICAL SOLUTIONS OF DIRECT AND INVERSE KINEMATICS PROBLEMS FOR MECHANISMS WITH OPEN AND CLOSED KINEMATIC CHAINS  
**Alexandr POLYAKOV, Marina KOLESOVA**
- MSM-5/D42 PERFORMANCE ANALYSIS OF PI-LAMBDA-D-MU AND PID CONTROLLERS  
**Ilhan MUTLU, Leyla GOREN SUMER**

**SESSION D - 10: SYSTEM DYNAMICS AND CONTROL**

**11:00 – 12:30**

Chairs: **K. Hedrih and G. M. Dimirovski**

- SDC-1/D37 AN ADAPTIVE UNSCENTED KALMAN FILTER APPLIED TO IDENTIFICATION OF PICO SATELLITE ATTITUDE DYNAMIC PARAMETERS  
**Halil Ersin SOKEN, Cingiz HADJIJEV**
- SDC-2/D64 CONSIDERING VIBRATIONS OF THE DOUBLE DNA MAIN CHAIN VIA A MODEL WITH HEREDITARY PROPERTIES

- Katica (STEVANOVIĆ) HEDRIH, Anjelka N. HEDRIH***  
SDC-3/D65 ENERGY OF VIBROIMPACT SYSTEM DYNAMICS: HEAVY  
MATERIAL PARTICLE OSCILLATION ALONG ROUGH CIRCLE WITH  
ONE SIDE IMPACT LIMIT
- Katica (STEVANOVIĆ) HEDRIH, Srgjan JOVIĆ***  
SDC-4/D75 A SURVEY ON MODELLING, ANALYSIS, AND DESIGN OF  
SWITCHED FUZZY CONTROL SYSTEMS
- Vesna OJLESKA, Tatjana D. KOLEMISEVSKA-GUGULOVSKA,  
Georgi M. DIMIROVSKI***  
SDC-5/D73 SWITCHED NONLINEAR SYSTEMS AND SWITCHING BASED  
CONTROL: A SURVEY  
***Georgi M. DIMIROVSKI***

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Total time per paper presentation is 15 minutes (10-12 minutes for presentation and 3-5 minutes for discussion and questions).

		Сала - Hall					
Ден Day	Време Time	Билјана Biljana	Лабино Labino	Самоил Samoil	Канео Kaneo	Охрид Ohrid	Бизнис Biznis
САБОТА –SATURDAY 26.IX.2009	12:00 – 14:00	Регистрација на учесниците и ручек – Participants registration and lunch					
	14:00 – 15:00	<b>СВЕЧЕНО ОТВОРАЊЕ – OPENING CEREMONY *</b>					
	15:00 – 15:45	Пленарно предавање 1 – Plenary lecture 1 * BIOLOGICAL OSCILLATORS: EXPERIMENTS AND THEORY <i>Aneta STEFANOVSKA,</i> <i>Lancaster University, Lancaster, England, UK</i>					
	16:00 – 16:45	Пленарно предавање 2 – Plenary lecture 2 * EMERGING WIRELESS NETWORKS: INTERFERENCE IS NOT NOISE AND WHY THAT MATTERS <i>Petar POPOVSKI,</i> <i>Aalborg University, Aalborg, Denmark</i>					
	16:45 – 17:15	Кафе пауза – Coffee break					
	17:15 – 18:45	I1	D1	IE1	D2	T1	
	19:30 – 20:30	Коктел за добредојде – Welcome cocktail					
НЕДЕЛА –SUNDAY 27.IX.2009	09:00 – 10:30	I2	D3	E1	D4	T2	AAS1
	10:30 – 11:15	Пленарно предавање 3 – Plenary lecture 3 * GUIDANCE, NAVIGATION, AND CONTROL AUTONOMOUS VEHICLES AND ROBOTS <i>Jurek SASIADEK</i> <i>Carleton University, Ottawa, Ontario, Canada</i>					
	11:15 – 11:45	Пауза / Pause					
	11:45 – 12:30	Пленарно предавање 4 – Plenary lecture 4 * SECURITY ADVANTAGES OF A CLEAN SLATE RECURSIVE INTERNET ARCHITECTURE <i>Lubomir T. CHITKUSHEV,</i> <i>Boston University, Boston, Massachusetts, USA</i>					
	12:30 – 13:30	Тркалезна маса 1 – Round table 1 * Широкопојасни услуги сегашност и иднина Broadband services the present and the future					
	13:45 – 21:00	Екскурзија – Excursion					
ПОНЕДЕЛНИК –MONDAY 28.IX.2009	08:30 – 10:00	I3	D5	E2	A1	T3	AAS2
	10:00 – 10:45	Пленарно предавање 5 – Plenary lecture 5 * FORTY YEARS OF INVARIANCE CONDITION IN SLIDING MODE CONTROL AND VARIABLE STRUCTURE SYSTEMS <i>Branislava PERUNICIC (DRAZENOVIC),</i> <i>Academy of Science&amp;Arts, Sarajevo, Bosnia-Herzegovina</i>					
	10:45 – 11:15	Кафе пауза – Coffee break					
	11:15 – 12:00	Пленарно предавање 6 – Plenary lecture 6 * BALKANS AND NEAR-EAST CONTRIBUTIONS TO THE EARLY DEVELOPMENTS OF CONTROL SYSTEM TECHNOLOGIES <i>Atila BIR,</i> <i>Istanbul Technical University, Istanbul, Turkey</i>					
		Презентации на фирми – Company presentations					
	12:00 – 13:00	HUAWEI *			T-Mobile & T-HOME **		
	13:00 – 14:00	CISCO *			VIP OPERATOR **		
	14:00 – 15:00	Ручек – Lunch					
	15:00 – 16:30	I4	D6	E3	AAS3	A2	P1
	16:30 – 17:00	Кафе пауза – Coffee break					
	17:00 – 18:30	I5	D7	E4	D8		P2
	18:30 – 19:30	Тркалезна маса 2 – Round table 2 * Иновативност – императив за успех – Innovation for success					
20:00 – 22:00	Свечена вечера – Conference dinner						
ВТОРНИК TUESDAY 29.IX.2009	09:00 – 10:30	IE2	D9	A3	T4		AAS4
	10:30 – 11:00	Кафе пауза – Coffee break					
	11:00 – 12:30	IE3	D10	A4	T5		AAS5
	12:30 – 13:00	Свечено затворање – Closing ceremony *					

\* Сала Билјана – Biljana Hall

\*\* Сала Лабино – Labino Hall