

Day	Time	Room			
		A	B	C	D
Tuesday October 4	17 ⁰⁰	Registration			
	19 ⁰⁰				
Wednesday October 5	09 ⁰⁰	Registration			
	10 ³⁰				
	11 ⁰⁰	Opening and Plenary Lectures			
	13 ⁰⁰	TELSIKS Welcome Cocktail Party			
	15 ⁰⁰				
	17 ⁰⁰	MTM	TST	Women in Engineering	
	19 ⁰⁰	BMC	CMT	IEEE	PO1-PO4
	21 ⁰⁰	Reception at the Mayor of Niš			
		Musical performance			
Thursday October 6	09 ⁰⁰	Registration			
	11 ⁰⁰	CIT	SP		
	13 ⁰⁰	ME	TNS	RCC	PUKOS
	15 ⁰⁰	Sightseeing tour			
	17 ⁰⁰	IP	ICT		PO5-PO8
	19 ⁰⁰				
	21 ⁰⁰	Conference Dinner			
Friday October 7	09 ⁰⁰	Registration			
	11 ⁰⁰	MT	WC I		
	13 ⁰⁰	CEM	WC II		
	15 ⁰⁰				
	17 ⁰⁰				

10th jubilee

International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services



TELSIKS



CONFERENCE PROGRAM
Serbia, Niš,
5 - 7 October



2011

2009
2007
2005
2003
2001
1999
1997
1995
1993

Faculty of Electronic Engineering
University of Niš

WELCOME TO TELSIS 2011



On behalf of the Technical Program Committee it is my pleasure to invite you to attend the jubilee 10th TELSIS Conference which is going to be held on October 5 - 8, 2011, in Niš, Serbia.

The series of the biannual conferences on telecommunications in modern satellite, cable and broadcasting services TELSIS started in 1993. The first two conferences were organized at the national level. Increasing number of the participants from abroad, allowed organizers to bring the conference quality to a higher level and starting from 1997 the TELSIS Conference has got an international character. That year the Conference was sponsored by IEEE Microwave Theory and Techniques Society for the first time. Since TELSIS'99, the Conference was technically co-sponsored by the IEEE Microwave Theory and Techniques Society, IEEE Antennas and Propagation Society, IEEE Communications Society and Region 8. Starting from 1999, the Conference Proceedings have been distributed by IEEE Book Broker post conference distribution program (TELSIS papers are available through IEEE Xplore online delivery system), and from 2003, the conference papers have been included in the INSPEC data base of international IET Society.

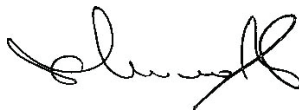
This year's conference has aroused a great interest. All submitted scientific and application oriented contributed papers have been reviewed by the International Review Board and 162 papers have been accepted for oral or poster presentation. Besides the contribution papers, 17 invited keynote papers will be presented at the beginning of the related sessions. A good selection of invited speakers, mostly world wide known leading experts, provides the first hand information on state of the art in focused fields. In addition, there will be two plenary invited papers after the Conference opening.

The technical program will include as well a round table where the start-of-the-art in the ICT sector in EU and in Serbia and further development steps of the ICT in Serbia will be discussed.

Traditionally, the social program will be rich in events. We hope that staying in Niš will be very pleasant to the Conference participants.

The organization of the Conference has required the joint effort of many people. I wish to express my gratitude to members of the Technical Program Committee, Organizing Committee, Executive Committee, sponsors and all those who contributed to the success of the Conference. In particular, I am grateful to the members of the Review Board, who devoted their time to evaluate the submitted papers which has helped the conference TPC to make a high-level scientific program. Many thanks to the authors of invited and contributed papers for their contribution to the quality of the Conference. Also, I would like to thank to the round table speakers and participants.

I warmly invite you to attend the Conference, assuring you that it will be a high-level international event. I am looking forward to meeting you in Niš.

A handwritten signature in black ink, appearing to read 'B. Milovanović', with a stylized flourish at the end.

Prof. Dr. Bratislav Milovanović
Conference Chairman

2011 10th International Conference on Telecommunications
in Modern Satellite, Cable and Broadcasting Services (TELSIKS)

TELSIKS 2011

organized by



**Faculty of Electronic Engineering,
University of Niš, Serbia**



**Society for Microwave Technique,
Technologies and Systems, Serbia**

*under IEEE MTT-s, AP-s, and Region 8 Technical
Co-Sponsorship:*



**IEEE
region8**

under auspices of

- **Serbian Academy of Sciences and Arts (SASA)**
- **Government of the Republic of Serbia,
Ministry of Education and Science**

in cooperation with

- **Academy of Engineering Sciences of Serbia**
- **IEEE Serbia and Montenegro Section**
- **Serbia and Montenegro IEEE Chapter
Communications**
- **Telecommunications Society of Serbia**
- **Serbia and Montenegro IEEE MTT-S Chapter**
- **ETRAN Society**

with support of many sponsors.

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TECHNICAL PROGRAM COMMITTEE

Chairman:

B. Milovanović University of Niš, Serbia

Members:

V. Aćimović-Raspopović University of Belgrade, Serbia
T. Benson University of Nottingham, UK
T. Berceli University of Budapest, Hungary
O. Borić-Lubecke University of Hawaii at Manoa/Kai Sensors, Honolulu, USA
Z. Bojković University of Belgrade, Serbia
Dj. Budimir University of Westminster, UK
C. Capsalis National Technical University of Athens, Greece
C. Christopoulos University of Nottingham, UK
G. Dimirovski Dogus University, Turkey
D. Drajić University of Belgrade, Serbia
I. Đorđević University of Arizona, USA
O. Fratu University Politehnica of Bucharest, Romania
L. Gavrilovska University "Ss Cyril and Methodius", Macedonia
T. Itoh University of California, CA, USA
B. Jokanović Institute of Physics, Belgrade, Serbia
B. Kim Pohang University of Science and Technology, Republic of Korea
B. Kolundžija University of Belgrade, Serbia
R. Kountchev Technical University of Sofia, Bulgaria
M. Lutovac University of Belgrade, Serbia
V. Marković University of Niš, Serbia
S. Maas Applied Wave Research, Inc., USA
W. Mathis University of Hannover, Germany
Lj. Milić Institute Mihailo Pupin, Belgrade, Serbia
V. Milutinović University of Belgrade, Serbia
J. Modelski Warsaw University of Tech., Poland
A. Nešić IMTEL Comm., Belgrade, Serbia
V. Nichoga National Academy of Science, Ukraine
Z. Pantić Wentworth Institute of Technology, USA
Dj. Paunović University of Belgrade, Serbia
P. Petrović IRITEL, Belgrade, Serbia
R. Petrović Verance, San Diego, USA

Z. Petrović	Institute of Physics, Belgrade, Serbia
D. Pokrajac	Delaware State University, USA
R. Popović	Singidunum University, Serbia
S. Prasad	Northeastern University, Boston, USA
B. Radenković	University of Belgrade, Serbia
J. Radunović	National Agency for Telecommunications, Serbia
K. R. Rao	University of Texas at Arlington, USA
B. Reljin	University of Belgrade, Serbia
I. Reljin	University of Belgrade, Serbia
P. Russer	University of Munich, Germany
M. Simić	JP ETV Beograd, Serbia
A. Smiljanić	University of Belgrade, Serbia
M. Stefanović	University of Niš, Serbia
M. Stojčev	University of Niš, Serbia
G. Stoyanov	Technical University of Sofia, Bulgaria
S. Tomažić	University of Ljubljana, Slovenia
B. Vasić	University of Arizona, USA
K. Wu	Ecole Polytechnique, Montreal, Canada

CONFERENCE ORGANIZING COMMITTEE

Chairman:

B. Milovanović	University of Niš, Serbia
-----------------------	---------------------------

Members:

A. Atanasković	University of Niš, Serbia
N. Dončov	University of Niš, Serbia
J. Joković	University of Niš, Serbia
N. Maleš-Ilić	University of Niš, Serbia
Z. Marinković	University of Niš, Serbia
V. Marković	University of Niš, Serbia
M. Milijić	University of Niš, Serbia
O. Pronić	University of Niš, Serbia
T. Dimitrijević	University of Niš, Serbia
Z. Stanković	University of Niš, Serbia
B. Stošić	University of Niš, Serbia

CONFERENCE EXECUTIVE COMMITTEE

Conference Chairman:

B. Milovanović University of Niš, Serbia

Conference General Technical Editor:

Z. Stanković University of Niš, Serbia

General Secretary and Conference Technical Co-Editor

B. Stošić University of Niš, Serbia

Conference Secretary:

M. Milijić University of Niš, Serbia

Conference Activities Coordinators:

T. Asenov University of Niš, Serbia

A. Atanasković University of Niš, Serbia

Z. Marinković University of Niš, Serbia

Technical support:

M. Agatonović University of Niš, Serbia

Z. Đorđević University of Niš, Serbia

M. Miletić University of Niš, Serbia

Conference Marketing Design Team:

I. Milovanović University of Singidunum, Serbia

N. Radičković University of Singidunum, Serbia

Z. Stanković University of Niš, Serbia

CONFERENCE SECRETARIAT

Address:

TELSIKS 2011 Secretariat

Faculty of Electronic Engineering

Aleksandra Medvedeva 14

18000 Niš, Serbia

phone: +381 18 529 303

fax: +381 18 588 399

e-mails: telsiks@elfak.ni.ac.rs, info@telsiks.org.rs

CONFERENCE INTERNET SITE

For further information, please visit the Conference Internet

Site: <http://www.telsiks.org.rs>

TELSIKS HISTORY

The series of biannual Conferences TELSIKS was founded by Professor Bratislav Milovanović. The main organizer of the Conference is the Faculty of Electronic Engineering, Niš. The Conference is supported by Serbian Academy of Science and Art, Serbian Ministry of Science and Technological Development, Serbian Ministry of Science and Technological Development as well as by many sponsors.

1st Conference on Telecommunications in Modern Satellite and Cable Services - TELSIKS'93 was held in October, 7-9, 1993. There were 69 papers; the authors of 65 of them were from Serbia and Montenegro and only 4 papers were by the authors from abroad; therefore it was a national conference. The papers were presented in the scope of one plenary and 8 scientific sections. During the Conference, an Exhibition of electronics and telecommunications equipment and four round tables were organized.

2nd Conference TELSIKS'95 was held in October, 10-12, 1995. Two plenary, 15 invited and 126 regular papers were presented. It was a national conference with a greater international involvement than the previous one. There were authors from 9 countries. Also, two round tables and an Exhibition was organized.

3rd International Conference TELSIKS'97 was held in October, 8-10, 1997. The Technical Program Committee decided to apply for IEEE MTT Support. After evaluating the level and significance of the conference, a technical co-sponsorship was obtained. The name of the conference was a little bit changed - broadcast services were added. There were 175 papers (2 plenary papers, 28 keynote invited papers and 145 regular papers), presented at one plenary, 18 oral and 4 poster sessions. For the first time two workshops (Cable television and MMDS) were organized.

4th International Conference on Telecommunications in Modern Satellite, Cable and Broadcasting Services - TELSIKS'99 was held in October, 13-15, 1999. The Conference was technical co-sponsored by three IEEE societies: Antennas and Propagation Society (AP-S), Communication Society (ComSoc), and Microwave Theory and Technique Society (MTT-S) and by IEEE Region 8. The Conference preparing was done under very difficult circumstances, due to the war and post-war conditions. Nevertheless, thanks to the support of many sponsors that helped us, although they had a lot of troubles, as well as to the support of TELSIKS friends all over the world, the Conference was successfully organized. There were 148 papers (2 plenary papers, 24

keynote invited papers and 122 regular papers), presented at one plenary, 17 oral and 4 poster sessions. During the Conference a workshop "Terrestrial Broadcasting" was organized and an exhibition as well. It should be noted, that for the first time the TELSIS'99 Proceedings was published as an IEEE publication, which has been distributed by IEEE Book Broker post conference distribution program. Since that year, all TELSIS conference papers have been accessible through IEEE Xplore.

5th TELSIS 2001 Conference was held in September, 19-21, 2001. The list of TELSIS technically co-sponsors was extended by IEEE Broadcast Technology Society. It must be pointed out that the number of copies required by Book Broker program is almost doubled in comparison to the previous Conference. 127 regular (scientific and application oriented) papers and 33 invited keynote papers were presented. Two workshops, one related to new trends in microwaves and the other related to e-commerce, as well as two round tables and an exhibition took place at the Conference. Two suitable celebrations were organized through two special sessions. One was dedicated to Nikola Tesla, the genius in the electrical engineering field and to Jovan Surutka, a member of Serbian Academy of Science and Art, an eminent scientist and a professor in the field of electromagnetics.

6th TELSIS 2003 Conference, organized by the Faculty of Electronic Engineering, Niš was held in October, 1-3, 2003. During that conference 178 regular (scientific and application oriented) papers and 28 invited keynote papers were presented. In addition to the traditional exhibition and presentation of electronic and telecommunication equipment, one special session, two round tables, and two workshops were held. The special session was dedicated to the celebration of the 70th birthday of Aleksandar Marinčić, a member of Serbian Academy of Science and Art, an eminent scientist and a professor in the field of microwaves. The scope of the first round table was the Broadcasting Regulatory and of the second one the Strategy of industrial development of electronics, telecommunications and informatics. One workshop, "New Trends in Microwaves", had two great names in the field of microwaves, Professor Tatsuo Itoh and Professor Ke Wu, as lecturers. The other one, with Professor Veljko Milutinović as main lecturer, was related to e-commerce. For the first time, papers published in the TELSIS 2003 Proceedings are included in the INSPEC data base of international IEE Society.

7th TELSIS Conference was held in September, 28-30, 2005 at the Faculty of Electronic Engineering, Niš. Conference Program comprised 135 scientific or

application-oriented papers, of which 15 were invited ones. The Conference was technical co-sponsored by three IEEE societies: Microwave Theory and Technique Society (MTT-S), Antennas and Propagation Society (AP-S) and Communication Society (ComSoc), and by IEEE Region 8. TELSIS 2005 Proceedings were distributed by IEEE Conference Publications Program (IEEE CPP). Two workshops and one round table were held during the Conference. First workshop was related to the advances in mobile communication technologies whereas the topic of the second workshop (in Serbian language) was broadband wireless communications. The topic of the round table was new telecommunications technologies representing a challenge for introduction of law regulation. Moreover, commercial presentations of attractive programs and products related to the conference topics were organized as additional Conference activities.

8th TELSIS Conference was held in September, 26-28, 2007 at the Faculty of Electronic Engineering, Niš. Conference Program comprised 135 scientific or application-oriented papers, of which 24 were invited ones. The Conference was technical co-sponsored by three IEEE societies: Microwave Theory and Technique Society (MTT-S), Antennas and Propagation Society (AP-S) and Communication Society (ComSoc), and by IEEE Region 8. TELSIS 2007 Proceedings were distributed by IEEE Conference Publications Program (IEEE CPP). Two workshops, one tutorial and two round tables are going to be held during the Conference. First workshop was related to the advances in microwave and optical technology and design, whereas the second workshop (in Serbian language) was related to the telecommunication systems in modern business buildings in Serbia. Tutorial was related to knowledge search modelling. The topic of the round table was new telecommunication technologies representing a challenge for introduction of law regulation. Moreover, commercial presentations of attractive programs and products related to the conference topics were organized as additional Conference activities.

9th TELSIS Conference was held in October, 7-9, 2009 at the Faculty of Electronic Engineering, Niš. Conference Program comprised 124 scientific or application-oriented papers. The Conference was technical co-sponsored by three IEEE societies: Microwave Theory and Technique Society (MTT-S), Antennas and Propagation Society (AP-S) and Communication Society (ComSoc), and by IEEE Region 8. TELSIS 2011 Proceedings were distributed by IEEE Conference Publications Program (IEEE CPP). One workshop and two round tables were held during the Conference. Workshop was related to the new trends in multimedia communications. The topic

of the first round table was the scientific and technological development strategy of the Republic of Serbia, whereas second round table was related to accreditation of higher education. Moreover, commercial presentations of attractive programs and products related to the conference topics were organized as additional Conference activities.

Jubilee 10th TELSIS Conference – TELSIS 2011 will be held from Wednesday, October 5th, through Friday, October 7th, 2011, at the Faculty of Electronic Engineering, University of Niš, Serbia. Conference is organized by Faculty of Electronic Engineering, University of Niš and Society for Microwave Technique, Technologies and Systems, Serbia. The Conference is technical co-sponsored by two IEEE societies: Microwave Theory and Technique Society (MTT-S), Antennas and Propagation Society (AP-S), and by IEEE Region 8. As before, TELSIS 2011 Proceedings are going to be distributed by IEEE Conference Publications Program. One round table related to **“ICT in EU and Serbia: State-of-the-Art and Further Steps”** is going to be held during the Conference. Special session dedicated to metamaterials will be organized.

We will try to do our best to make this Conference successful and your staying in Niš unforgettable. Also, we hope that we will meet again during the 11th TELSIS Conference – TELSIS 2013.

VENUE

Niš is an administrative, economic and cultural centre of the South-East Serbia. It is known as the greatest gate between East and West, because it is on the crossroad of the three important directions of the international highway, railway and air traffic.

The history of the town is long and interesting. It is placed on the site of the Roman settlement of Naissus, the birthplace of Constantine the Great, in the valley of the river Nišava. It is rich in ancient monuments which testify about the stormy history of this city. Among many monuments there is a unique monument in the world, Čele Kula (Tower of Skulls), built by Turks in 1809, with the skulls of Serbian rebels killed in the battle. Also, in the centre of Niš there is the Fortress from the Turkish time, which is a symbol of the city. The memorial complex on Bujanj Hill, camp "Crveni krst" (Red cross) and many other monuments from the near past are important cultural-historical monuments of Niš, too. The Niška Banja - Spa, near Niš, is well known by the possibilities for the treatment of heart and vascular diseases.

Niš is the second university centre in Serbia. The Faculty of Electronic Engineering, the main organizer of the Conference and your host during the Conference, is one of the most perspective university institutions in the country.

The Faculty of Electronic Engineering offers undergraduate studies leading to the professional title of graduate electrical engineer. There are following educational profiles: automatic control, electronics, telecommunications, computer science and informatics, microelectronics and electrical power engineering. Besides, the post-graduated studies in eleven basic fields and Ph.D. studies are organized. In addition, there have been lots of scientific-research and developing projects supported by the Ministry of Science and Environmental Protection of the Republic of Serbia, as well as by the industry and a number of project is expected. Currently, a curricula and syllabi reform is going on at the faculty with the aim to bring improvements to the educational process and to make them more compatible with Bologna declaration.

Faculty of Electronic Engineering is located near to the old Fortress, within the walking distance from the city centre. We truly hope that the Faculty building will be a convenient and pleasant place for the Conference.

TRAVEL INFORMATION

If you fly to Belgrade we are going to organize the transportation for Conference participants from the Belgrade Airport to Niš, and after closing the Conference, from Niš to Belgrade as well.

Do not hesitate to contact the Conference Secretariat for any further information regarding your travel and transportation.

VISAS

For participants from some countries a visa for Serbia is required. Please, take care of this on time and contact the Consular Section of Serbian embassy in your country. If you need any official invitation letter, please contact the Conference Secretariat. The Invitation letter will be sent to you, as well as to your consular section of embassy Serbia.

CLIMATE

Niš is located in the moderate - continental climate zone. Usually the weather at the beginning of October is sunny and warm but a rain is not impossible.

REGISTRATION AND INFORMATION DESKS

The Registration Desk, Information Desk, as well as Secretariat Office, will be open during the following hours:

<i>Tuesday,</i>	October 4	,	17:00 - 19:00
<i>Wednesday,</i>	October 5	,	09:00 - 19:00
<i>Thursday,</i>	October 6	,	08:30 - 19:00
<i>Friday,</i>	October 7	,	08:30 - 13:00

FEES

The registration fees are:

CONFERENCE*	Foreign participants (€)	Participants from Serbia (RSD)
Full rate	350	By National Bank of Serbia exchange rate
IEEE Members	270	By National Bank of Serbia exchange rate
Student rate	180	By National Bank of Serbia exchange rate

***Note:** For each accepted contributed paper at least one Conference fee has to be paid.

The Conference registration fee includes:

- Admission to all Conference sessions and to the other events
- A Copy of Conference Proceedings
- Conference Kit (Bag, Folder, Notebook, Pencil, etc.)
- Cocktail Party
- Conference Dinner
- Refreshment during breaks

FEE PAYMENT

The registration fees could be paid at the TELSIKS desk or to the bank account.

FOREIGN PARTICIPANTS could pay Registration fees to the bank account according to the following **Instruction for Customer Transfers:**

INSTRUCTION FOR CUSTOMER TRANSFERS IN EUR

56: Intermediary:

SWFT code: DEUTDEFF
DEUTSCHE BANK ag
FRANKFURT AM MAIN,
GERMANY

57: Account With Institution:

SWFT code: NBSRRSBG
NARODNA BANKA SRBIJE
NEMANJINA 17
BEOGRAD
SERBIA

59: Beneficiary:

IBAN number: /RS35908500100000693549
ELEKTRONSKI FAKULTET NIS
ALEKSANDRA MEDVEDEVA 14
NIS
SERBIA

If you need an *Proforma Invoice* for payment of registration fees, please download and fill out *Proforma Invoice Data* form from TELSIKS 2011 Web site <http://www.telsiks.org.rs>, and send it to e-mail address: valentina.pejovic@elfak.ni.ac.rs and telsiks@elfak.ni.ac.rs.

PARTICIPANTS FROM SERBIA should download and return filled out *Proforma Invoice Data* form to address: valentina.pejovic@elfak.ni.ac.rs and telsiks@elfak.ni.ac.rs

*** Note: Bank transfer charges are the responsibility of the participant and should be paid in addition to the registration fee.**

MAIL AND MESSAGES

During the Conference, the Conference participants can receive the messages via fax or E-mail:

Fax: +381 18 588 399

E-mail: telsiks@elfak.ni.ac.rs

SOCIAL PROGRAM

Wednesday, October 5, 2011, 12:30

After Conference opening and plenary session, *TELSIKS Welcome Cocktail* will be offered to all Conference participants, in the hall of Faculty of Electronic Engineering.

Wednesday, October 5, 2011, 21:00

A *musical performance* will be arranged for all Conference participants in Concert hall of the Faculty of Arts.

Thursday, October 6, 2011, 14:00-17:00

A *sightseeing tour* will be organized. The participants who are interested in this tour should indicate it at the Registration desk on Wednesday, October 5. Because the number of seats is limited, the tour is on "first come, first served" basis.

Thursday, October 6, 2009, 20:30

A *Conference Dinner* will be offered to all registered participants. Information about departure will be available at TELSIKS 2011 registration desk. Hotel "Vidikovac" will host this dinner. The participants will enjoy fine cuisine, good beverages and exclusive live music. The famous domestic musical ensemble with international program will make the dinner unforgettable.

LANGUAGE

Official language of the Conference is English.

Official language of the Round Table is Serbian.

PAPER PRESENTATION

Authors who will present the papers (orally or by poster) are kindly requested to contact their session chairmen 10 minutes before the beginning of the session. In this way, the authors will contribute to a better organization of the sessions.

The time for the presentation of the *invited keynote* papers including discussion is **limited to 20 minutes**. The time for the oral presentation of the *regular* papers including discussion is **15 minutes**. Papers should be presented only by the registered authors. Video-beams will be at disposal during the presentation.

For poster presentation, a 1 m X 1 m board will be provided. Posters should be legible from a distance of 1-2 meters. The recommended font sizes are: 30-40 mm for title, 20-30 mm for names of authors, 15-20 mm for headings and 10-15 mm for text. Clarity and brevity are very appreciated.

The Secretariat will provide the pins or tape for poster mounting. Authors are requested to set up their posters well in advance of the starting session time and must be present throughout the whole session.

CONFERENCE TOPICS

1. Satellite communications
2. Classical cable and optical communications
3. Mobile communications
4. Computational electromagnetic
5. Antennas and propagation
6. RF and microwave technique
7. Electromagnetic compatibility
8. Broadcasting and digital television
9. Digital signal processing
10. Multimedial communications
11. Broadband wireless access
12. Telecommunication networks
13. Modulations and coding
14. Internet technologies
15. New telecommunications technologies and services
16. Other

TECHNICAL PROGRAM

- Plenary session
- Regular sessions (Invited keynote and regular papers)
- Poster sessions
- Round table on actual topics

ROUND TABLE

ICT in EU and Serbia: State-of-the-Art and Further Steps

Round table will be held in Serbian.

Thursday, October 6, 2011 13:00-15:00 (Room C)

SPECIAL EVENT

IEEE Women in Engineering Meeting

Wednesday, October 5, 2011 16:00-17:00 (Room C)

IEEE Executive Committee Meeting

Wednesday, October 5, 2011 17:00-18:00 (Room C)

***Microwave Review* scientific journal presentation**

Wednesday, October 5, 2011 16:00-17:00 (Room D)

Regional Chamber of Economy – ICT society Meeting

Thursday, October 6, 2011 12:00-13:00 (Room C)

Serbian Cable Operators – Steering Boards Meeting

Thursday, October 6, 2011 12:00-13:00 (Room D)



***TELSIS 2011
CONFERENCE
PROGRAM***



Lecture Hall
10:30

Wednesday, October 7

**OPENING
SESSION**

Chairmen

Prof. Bratislav Milovanović
University of Niš, Serbia

Prof. Kamisetty Rao
University of Texas at Arlington, USA

Prof. Christophe Caloz
Ecole Polytechnique de Montreal, Canada

Prof. Rolf Kraemer
IHP (Innovations for High Performance
microelectronics), Germany

Prof. Simona Halunga
University Politehnica of Bucharest,
Romania

Prof. Kazumi Nakamatsu
University of Hyogo, Japan
Technical University of Sofia, Bulgaria

WELCOME TO TELSIS 2011

Prof. Nataša Nešković
Serbia and Montenegro IEEE Section, Serbia

Prof. Magdalena Salazar Palma
IEEE Antennas and Propagation Society

Prof. Francois Rancy
ITU Chair of Radiocommunications Bureau,
Switzerland

Prof. Dejan Popović
Serbian Academy of Sciences and Arts, Serbia

Prof. Dragan Antić
Dean of the Faculty of Electronic Engineering,
University of Niš, Serbia

Prof. Miroljub Grozdanović
Rector of University of Niš, Serbia

OPENING ADDRESS

Prof. Vera Dondur
President of National Council for Scientific and
Technological Development, Serbia

12:15 End of session



Lecture
Hall
10:30

Wednesday, October 5

**PLENARY
SESSION**

Chairman

B. Milovanović
University of Niš, Serbia
K. R. Rao
University of Texas at Arlington, USA
I. Reljin
University of Belgrade, Serbia

Invited papers:

**PL.1 Next-Generation Metamaterials for
Unprecedented Microwave Systems**
C. Caloz
Ecole Polytechnique de Montréal, Canada

PL.2 Transition to Digital TV and Digital Dividend
François Rancy, Elmar Zilles*, Jean-Jacques
Guitot**
ITU Radiocommunication Bureau, Switzerland
**Bundesnetzagentur (BNetzA), Switzerland*
***Agence Nationale des Fréquences (ANFR),
Switzerland*

12:00

End of session



Room A
15:00

Wednesday, October 5

ELECTROMAGNETIC METAMATERIALS

Chairmen

- C. Caloz**
Ecole Polytechnique de Montr'éal, Canada
- Z. Jakšić**
*Institute of Chemistry, Technology and
Metallurgy, Serbia*
- B. Jokanović**
Institute of Physics Belgrade, Serbia

Invited paper:

- MTM.1 Field Displacement in a Graphene Loaded Waveguide**
Dimitrios Sounas, Christophe Caloz
Ecole Polytechnique de Montr'éal, Canada

Regular papers:

- MTM.2 Mixed-mode Characterization of a Circularly-Polarized CRLH Leaky-Wave Antenna**
N. Yang, H. Van Nguyen, S. Abielmona, C. Caloz
Ecole Polytechnique de Montr'éal, Canada
- MTM.3 Multiband Delay Lines with Reconfigurable Split-Ring Resonators**
R. Bojanić, B. Jokanović, V. Milošević
Institute of Physics, Belgrade, Serbia
- MTM.4 Time-domain Modelling of Graded Refractive Index Metamaterials by using 3D TLM Z-transform Method**
Nebojša Dončov, Tatjana Asenov,
Zoran Stanković, John Paul*
*Faculty of Electronic Engineering, University of Niš,
Serbia*
*University of Nottingham, United Kingdom
- MTM.5 Analytical Approach to Lossy Wave Propagation through a Graded Interface Containing Negative Index Material**
M. Dalarsson, M. Norgren, N. Dalarsson, Z. Jakšić*
Royal Institute of Technology, Sweden
*Institute of Chemistry, Technology and Metallurgy,
Serbia
- MTM.6 Metamaterial based Slotted Patch Antenna**
Harish Kumar, Rajeev Kumar Kanth*,
Pasi Liljeberg*, Hannu Tenhunen*
Bhagwant Institute of Technology, India
*University of Turku, Finland
- MTM.7 Ferromagnetic Nanowire Material Electromagnetic and Quantum Devices**
L.P. Carignan, D. M'enard, C. Caloz
Ecole Polytechnique de Montr'éal, Canada

17:00

End of session



Room B
15:00

Wednesday, October 5

**TELECOMMUNICATION
SYSTEMS AND
TECHNOLOGIES**

Chairmen

D. Popović
University of Belgrade, Serbia

V. Poulkov
Technical University of Sofia, Bulgaria

Invited papers:

TST.1 New Generation of Assistive Systems for Humans with Disability: New Tool for Neurorehabilitation
D. Popović, N. Jovičić
Faculty of Electrical Engineering, University of Serbia, Belgrade
**Aalborg University, Denmark*

TST.2 Application of New Regulations in the Sector of Electronic Communications in Serbia
M. Janković, Lj. Matavulj, V. Bogdanović
Republic Agency for Electronic Communications, Belgrade, Serbia

Regular papers:

TST.3 Performance Comparison of NBI Suppression Methods for MIMO VDSL Systems
V. Poulkov, G. Iliev, M. Ovcharov
Technical University of Sofia, Bulgaria

TST.4 Adsorption-Desorption Phase Noise in RF MEMS/NEMS Resonators
I. Jokić, M. Frantlović, Z. Djurić, M. Dukić
University of Belgrade, Serbia

TST.5 ICT and Smart Grid
B. Panajotović, M. Janković, B. Odadžić
Republic Agency for Electronic Communications, Belgrade, Serbia

TST.6 Analyses of Probability Density Function of Displacement Signal for Laser Seeker Systems
Z. Barbarić, M. Lutovac, I. Djokić
State University of Novi Pazar, Serbia

TST.7 Optimal Multi Pulse Position Modulation for TH-IRUWB Communication Systems
M. Herceg, T. Švedek, D. Ferić
Faculty of Electrical Engineering, Osijek, Croatia

17:00 End of session



Room A
17:00

Wednesday, October 5

**BROADCASTING AND
MULTIMEDIA
COMMUNICATIONS**

Chairmen

R. Petrović

Verance Inc., USA

Z. Bojković

University of Belgrade, Serbia

O. Fratu

University of Bucharest, Romania

Invited papers:

BMC.1 Watermark Screening in Networked Environment

R. Petrović, J. Winograd, J. Zhao

Verance Inc., San Diego, USA

BMC.2 Current/Future Standards in Video/Image/Audio Coding

K. R. Rao, Do Nyeon Kim*

University of Texas at Arlington, USA

**Barun Technologies, Anyang, South Korea*

BMC.3 Service Platform Technology for Next-generation Wireless Multimedia: An Overview

K. R. Rao, Z. Bojković*, D. Milovanović

University of Texas at Arlington, USA

**University of Belgrade, Serbia*

Regular papers:

BMC.4 Performances of Conventional and MMSE Detectors for Image Transmissions

C. Voicu, S. Halunga, D. Vizireanu

POLITEHNICA University of Bucharest, Romania

BMC.5 Multiplexing/De-multiplexing Dirac Video with AAC Audio Bit Stream

A. Urs, K. R. Rao

University of Texas at Arlington, USA

BMC.6 Multiplexing and Demultiplexing of AVS China Video with AAC Audio

Swaminathan Sridhar, K. R. Rao

University of Texas at Arlington, USA

BMC.7 Video Streaming for Evaluation of Predictive VHO in Wireless Hybrid Access Networks

E. Popovici, V. Andrei, M. Gavrilescu, M. Magheti

POLITEHNICA University of Bucharest, Romania

19:00

End of session



Room B
17:00

Wednesday, October 5

CODING AND MODULATION TECHNIQUES

Chairmen

B. Vasić
University of Arizona, USA
D. Drajić
University of Belgrade, Serbia
Z. Perić
University of Niš, Serbia

Invited papers:

- CMT.1 Graph-Based Iterative Reconstruction of Sparse Signals for Compressed Sensing**
A. R. Krishnan, S. Sankararaman, B. Vasić
University of Arizona, USA
- CMT.2 Statistical Characterization of the Time-Varying Orthogonalized MIMO Systems over Nonisotropic Rayleigh Fading Channels**
D. Drajić, P. Ivaniš, M. Stojnić
Faculty of Electrical Engineering, University of Belgrade, Serbia

Regular papers:

- CMT.3 Binary and Nonbinary LDPC-Coded Modulations for Generalized Fading Channels**
M. Arabaci, I. Djordjević
University of Arizona, USA
- CMT.4 Switched Scalar Quantization of a Speech Signal Using Forward and Backward Adaptation**
Z. Perić, L. Stoimenov, J. Nikolić, G. Petković*
University of Niš, Serbia
**College of Applied Studies -Vranje Serbia*
- CMT.5 Propagation Effects in Synchronous Underground CDMA Systems**
A.M. Badescu, T. Petrescu, I. Marcu, O. Fratu, S. Halunga
POLITEHNICA University of Bucharest, Romania
- CMT.6 New RLL Code For High Density Optical Recording**
M. N. Simić
School of Aerospace, Mechanical, and Manufacturing Engineering, RMIT University, Australia
- CMT.7 MAP Decoding of MTR Codes in Multiple-Head Magnetic Recording Systems**
N. Djurić, V. Šenk, B. Vasić*
University of Novi Sad, Serbia
**University of Arizona, Tucson, USA*

19:00

End of session



Room A
09:00

Thursday, October 6

COMPUTER SYSTEMS AND INTERNET TECHNOLOGIES

Chairmen

V. Litovski

University of Niš, Serbia

V. Milutinović

School of Electrical Engineering, Belgrade, Serbia

K. Nakamatsu

University of Hyogo, Japan

Invited papers:

CIT.1 Application of Paraconsistent Annotated Logic Programs bf-EVALPSN to Intelligent Control

K. Nakamatsu

University of Hyogo, Japan

CIT.2 A Metadata-Supported Distributed Approach for Data Mining Based Prediction in Wireless Sensor Networks

S. Vujičić-Stanković, G. Rakočević*, V. Milutinović*

School of Mathematics, Belgrade, Serbia

**School of Electrical Engineering, University of Belgrade, Serbia*

CIT.3 ICT and Power: Synergy and Hostility

M. Dimitrijević, J. Milojković, S. Bojanić*,

V. Litovski

Faculty of Electronic Engineering, University of Niš, Serbia

**Universidad Politecnica de Madrid, Spain*

Regular papers:

CIT.4 Performance Analysis of the IP Lookup Table Updating

A. Tokalić, Z. Čiča, A. Smiljanić

University of Belgrade, Serbia

CIT.5 High-performance Processing of Geospatial Data on Network of Workstations

N. Stojanović, D. Stojanović

Faculty of Electronic Engineering, University of Niš, Serbia

CIT.6 Software Testing as a Service (TaaS): The BISA Approach

E. Kajan, L. Lazić, Z. Maamar*

State University of Novi Pazar, Serbia

**Zayed University, Dubai, UAE*

CIT.7 Detecting Attractive Locations and Tourists' Dynamics using Geo-referenced Images

K. Gavrić, D. Čulibrk, P. Lugonja, M. Mirković,

V. Crnojević

University of Novi Sad, Serbia

11:00

End of session



Room B
9:00

Thursday, October 6

SIGNAL PROCESSING

Chairmen

B. Reljin
University of Belgrade, Serbia

M. Lutovac
University of Belgrade, Serbia

Regular papers:

SP.1 Structure of First-Order Differentiator Utilizing FIR and IIR Sub-Filters
Lj. Milić, M. Lutovac*, J. Čertić
Faculty of Electrical Engineering, University of Belgrade, Serbia
**State University of Novi Pazar, Serbia*

SP.2 Crystal Filter 50 MHz for Applications in Specific Environmental Conditions
D. Dujković, S. Dedić-Nešić*, L. Grubičić*, B. Reljin**, I. Reljin
Faculty of Electrical Engineering, University of Belgrade, Serbia
**Institute Mihajlo Pupin, Belgrade, Serbia*
***Innovation Centre of the Faculty of Electrical Engineering, University of Belgrade, Serbia*

SP.3 Design of Symmetric Lossless LC Filter with Analysis of Critical Element Changes
V. Pavlović, M. M. Lutovac*, M. Lutovac**
Faculty of Electronic Engineering, University of Niš, Serbia
**Lola Institute, Belgrade, Serbia*
***State University of Novi Pazar, Serbia*

SP.4 Bio-impedance Signal Processing using Adaptive Digital Filter
V. Papez, S. Papezova*
Faculty of Electrical Engineering, Czech Technical University in Prague, Czech Republic
**Faculty of Mechanical Engineering, Czech Technical University in Prague, Czech Republic*

SP.5 The Direct Execution of the Expectation-maximization Algorithm using Symbolic Processing
V. Mladenović, D. Porrat, M. Lutovac*
Hebrew University of Jerusalem, Israel
**State University of Novi Pazar, Serbia*

SP.6 Transient Noise Effects in Measurement of Room Impulse Response by Swept Sine Technique

D. Ćirić, A. Pantić*, D. Radulović
Faculty of Electronic Engineering, University of Niš, Serbia
**Knauf Insulation d.o.o., Serbia*

SP.7 Design of Optimized Multistage Decimation Filter Chain Based on Optimal Factorization of Decimation Ratio

M. Stojnić, Dj. Babić*
School of Electrical Engineering, University of Belgrade, Serbia
**School of Computing, University Union, Belgrade, Serbia*

11:00 End of session



Room A
11:00

Thursday, October 8

MICROWAVE ELECTRONICS

Chairmen

B. Kim

Pohang Univ. of Science & Tech., Rep. of Korea

V. Marković

University of Niš, Serbia

N. Maleš-Ilić

University of Niš, Serbia

Invited papers:

ME.1

A Multimode/Multiband Envelope Tracking Transmitter using Broadband Saturated Power Amplifier

B. Kim, J. Moon, J. Kim

Pohang Univ. of Science & Tech., Rep. of Korea

Regular papers:

ME.2

Robust Estimation of Nonlinear Model Coefficients for RF Power Amplifiers

M. Vasković, Z. Djurović*, A. Tarczynski,
Dj. Budimir

University of Westminster, London, United Kingdom

**University of Belgrade Serbia*

ME.3

Linearization of Two-way Doherty Amplifier by Injection of Second and Fourth Order Nonlinear Signals at the Input and Output of the Carrier Cell

N. Maleš-Ilić, A. Atanasković, B. Milovanović

*Faculty of Electronic Engineering, University of Niš,
Serbia*

ME.4

Singly and Doubly Terminated Balanced Input Comb-line Filters for Current-Mode Class-S Power Amplifiers

E. Serebryakova, K. Blau, M. Hein

Ilmenau University of Technology, Germany

ME.5

GaN HEMT Large-Signal Model Accounting for both Low-Frequency Dispersion and High-Frequency Non Quasi-Static Effects

G. Crupi, A. Raffo*, D. Schreurs**, G. Avolio**,
V. Vadalí*, S. Difalco*, A. Caddemi, G. Vannini*

University of Messina, Italy

**University of Ferrara, Italy*

***Katholieke Universiteit Leuven Belgium*

ME.6

Artificial Neural Network based Modeling of FinFET Forward Transmission Coefficient

Z. Marinković, G. Crupi*, D. Schreurs**,

A. Caddemi*, V. Marković

*Faculty of Electronic Engineering, University of Niš,
Serbia*

**University of Messina, Italy*

***Katholieke Universiteit Leuven, Belgium*

ME.7

Improved ANN Approach to Bias-Dependent Scalable Noise Modelling of Microwave FETs

Z. Marinković, O. Pronić-Rančić, V. Marković

*Faculty of Electronic Engineering, University of Niš,
Serbia*

13:00

End of session



Room B
11:00

Thursday, October 6

**TELECOMMUNICATION
NETWORKS AND SERVICES**

Chairmen

R. Kraemer
IHP, Germany

V. Acimovic-Raspopovic
University of Belgrade, Serbia

Ž. Čučej
University of Maribor, Slovenia

Invited papers:

- TNS.1** **Reliable Architecture for Heterogeneous Home-Networks: The OMEGA I-MAC Approach**
R. Kraemer, M. Brzozowski, S. Nowak*
IHP, Germany
**Technical University of Dortmund, Germany*

Regular papers:

- TNS.2** **Packet-Aware Design of Slotted WDM Optical Packet Rings**
B. Uščumlić, A. Gravey*, I. Cerutti**, P. Gravey*, M. Morvan*, P. Castoldi**
Institute Mihajlo Pupin, Serbia
**Institute TELECOM -TELECOM Bretagne, France*
***Scuola Superiore Sant'Anna, Pisa, Italy*
- TNS.3** **Load Evaluation Model of Parlay X Gateway**
I. Atanasov, D. Marinska, E. Pencheva
Faculty of Telecommunications, Technical University of Sofia, Bulgaria
- TNS.4** **Traffic Models with Changed Serving Intensities in Secondary and Ternary Groups**
B. Bakmaz, M. Bakmaz
Faculty of Transport and Traffic Engineering, University of Belgrade, Serbia
- TNS.5** **Competitive Pricing Using Cournot Game in Next Generation Networks**
V. Radonjić, V. Aćimović-Raspopović, A. Kostić-Ljubisavljević, S. Mladenović
Faculty of Transport and Traffic Engineering, University of Belgrade, Serbia
- TNS.6** **Network Layer Simulation of LTE Downlink Capacity in Existing Site Grid**
N. Zeljković, I. Simić*
Telekom Srbija AD, Belgrade, Serbia
**Ericsson d.o.o, Belgrade, Serbia*

TNS.7 Measuring the Quality of DG CAC per Class Degradation Algorithm

G. Djukanović, M. Šunjevarić*, N. Gospić** ,
H. H. Chen***

*m:tel/ Telekomunikacije RS a.d., Banja Luka,
Bosnia & Herzegovina*

**RT-RK Computer Based Systems LLC,
Novi Sad, Serbia*

***Faculty of Transport and Traffic Engineering,
University of Belgrade, Serbia*

****National Cheng Kung University, Taiwan*

TNS.8 Modeling of Call Server Occupancy: A Case Study

S. Klampfer, Ž. Čučej*

Margento d.o.o., Maribor, Slovenia

**University of Maribor, Slovenia*

13:00 End of session



Room A
17:00

Thursday, October 6

IMAGE PROCESSING

Chairmen

K. R. Rao
University of Texas at Arlington, USA

R. Kountchev
Technical University of Sofia Bulgaria

I. Reljin
University of Belgrade, Serbia

Invited paper:

- IP.1 Image Compression based on the Karhunen-Loeve Color Transform with Inverse Pyramid Decomposition**
R. Kountchev, R. Kountcheva*
Technical University of Sofia, Bulgaria
**T&K Engineering, Sofia, Bulgaria*

Regular papers:

- IP.2 Low Complexity AVS-M using Machine Learning Algorithm C4.5**
K. R. Rao, P. Ramolia
University of Texas at Arlington, USA
- IP.3 Edge Examination using Holder Exponent and Image Statistics**
M. Paskaš, A. Gavrovska*, D. Jevtić, M. Slavković, B. Reljin
Innovation Centre of the Faculty of Electrical Engineering, University of Belgrade, Serbia
**Faculty of Electrical Engineering, University of Belgrade, Serbia*
- IP.4 Renal DMSA Scan Morphology Analysis using Undecimated Wavelet Transform and Isocontours**
A. Gavrovska, M. Paskaš*, V. Kovačević, I. Reljin
Faculty of Electrical Engineering, University of Belgrade, Serbia
**Innovation Centre of the Faculty of Electrical Engineering, University of Belgrade, Serbia*
- IP.5 Adaptive Algorithm for Impulse Noise Suppression from Still Images and its Real Time Implementation**
S. Zoican
Politehnica University of Bucharest, Romania
- IP.6 Objective Image Quality Characterisation**
B. Bondžulić, V. S. Petrović*
Military Academy, Belgrade, Serbia
**University of Manchester, United Kingdom*
- IP.7 Merged MPEG-7 Visual Descriptors for Image Classification**
S. Cvetković, S. V. Nikolić
Faculty of Electronic Engineering, University of Niš, Serbia

19:00

End of session



Room B
17:00

Thursday, October 6

ICT IN EDUCATION AND COMMERCE

Chairmen

Z. Maamar

Zayed University, Dubai UAE

B. Radenkovic

Faculty of organizational sciences, Serbia

L. Stoimenov

University of Niš, Serbia

Invited papers:

ICT.1 S-Commerce: Injecting Social Elements into m-Commerce

S. Kouadri Mostefaoui, N. Faci*, Z. Maamar**
The Open University, Milton Keynes, United Kingdom

**University Lyon 1, France*

***Zayed University, Dubai, UAE*

Regular papers:

ICT.2 Principal Risk in Implementation of a Sophisticated ERP System at a Higher Education Institutions

Lj. Luić, D. Kalpić, M. Bojović*, B. Milašinović,
Z. Radivojević*

University of Zagreb, Faculty of Electrical Engineering and Computing, Croatia

**School of Electrical Engineering, University of Belgrade, Serbia*

ICT.3 Team Projects for ICT Master Students: Evaluation and Case Studies

D. Schreurs, Z. Marinković*, G. Crupi**
Katholieke Universiteit Leuven, Belgium

**Faculty of Electronic Engineering, University of Niš, Serbia*

***University of Messina, Italy*

ICT.4 Web Portal for Adaptive e-learning

B. Radenković, M. Despotović- Zrakić, D. Barać,
Z. Bogdanović, A. Milić

Faculty of Organizational Sciences, University of Belgrade, Serbia

ICT.5 Web Application for Scientific Reference Management

L. Stoimenov, N. Veljković, S. Bogdanović-Dinić

Faculty of Electronic Engineering, University of Niš, Serbia

ICT.6 Virtual Educational System and Communication

Z. Kostić, A. Jevremović, D. Marković, R. Popović
Faculty of Informatics and Computing, Singidunum University, Belgrade, Serbia

19:00

End of session



Room A
9:00

Friday, October 7

MICROWAVE TECHNIQUE

Chairmen

C. Caloz
Ecole Polytechnique de Montré'al Canada
A. Nešić
IMTEL Komunikacije A.D. Serbia
V. Crnojevic-Bengin
University of Novi Sad, Serbia

Regular papers:

- MT.1** **Amplitude Equalized Transmission Line Dispersive Delay Structure for Analog Signal Processing**
S. Gupta, Y. Horii**, B. Nikfal, C. Caloz
Ecole Polytechnique de Montré'al Canada
***Kansai University Osaka, Japan*
- MT.2** **Compact Equivalent Network Synthesis for Double-Symmetric Four-Ports**
J. Russer, N. Dončov*, F. Mukhtar, B. Stošić*,
B. Milovanović*, P. Russer
Technical University of Munich Germany
**Faculty of Electronic Engineering, University of Niš, Serbia*
- MT.3** **EBG Band-stop Filter with Suppression of 6 Spurious Stop-bands**
D. Nešić, B. Kolundžija*
IHTM-CMTM, Belgrade, Serbia
**Faculty of Electrical Engineering, University of Belgrade, Serbia*
- MT.4** **On a Method to Obtain z-domain Functions of Wave Digital Network for Elliptic Lowpass Microstrip Filter**
B. Stošić
University of Niš, Serbia
- MT.5** **Bandpass Filter Using Direct-Coupled Grounded Patch Resonator for Wireless LAN Applications**
V. Radonić, R. Geschke*, V. Crnojević-Bengin
University of Novi Sad, Serbia
**University of Stellenbosch, South Africa*
- MT.6** **Microstrip Filter with Suppression of Spurious-Bands**
V. Vladimirov, V. Markov, V. Shepov
Krasnoyarsk Science Centre of the Russian Academy of Sciences, Russia
- MT.7** **Microstrip Filters and Diplexer for the Receiver of the Global Navigation Satellite Systems «GLONASS», «GPS» and «GALILEO»**
V. Vladimirov, D. Petrov, S. Soldatenko, V. Shepov
Krasnoyarsk Science Centre of the Russian Academy of Sciences, Russia
- MT.8** **New Type of Cavity-Backed Antenna with Circular Polarization**
A. Nešić, I. Radnović, N. Vojnović
IMTEL Communications A.D., Belgrade, Serbia

11:00

End of session



Room B
09:00

Friday, October 7

WIRELESS COMMUNICATIONS I

Chairmen

S. Halunga

POLITEHNICA University of Bucharest, Romania

P. Ivaniš

University of Belgrade, Serbia

Regular papers:

WC I.1 Implementation of Different Behaviours of DS-CDMA Systems with Multiuser Detectors

I. Marcu, S. Halunga, O. Fratu

Politehnica University of Bucharest, Romania

WC I.2 Performances of LMS/NLMS Algorithms for CDMA RAKE Receivers

R. Craciunescu, S. Halunga, O. Fratu

Politehnica University of Bucharest, Romania

WC I.3 The Second Order Statistics of a Two-Branch MRC with Power Unbalanced Nakagami Distributed Branches

P. Ivaniš, V. Blagojević, D. Drajić, B. Vučetić*

Faculty of Electrical Engineering, University of Belgrade, Serbia

**School of Electrical and Information Engineering, University of Sydney, Australia*

WC I.4 Performances of HARQ Technique with UMTS Turbo Code in Nakagami Fading Channels

S. Brkić, P. Ivaniš

Faculty of Electrical Engineering, University of Belgrade, Serbia

WC I.5 Effect of Macrodiversity on Outage Probability and Average Channel Capacity in Composite Nakagami-gamma Environment

N. Sekulović, D. Krstić, E. Mekić*, M. Bandjur**, M. Stefanović

Faculty of Electronic Engineering, University of Niš, Serbia

**State University Novi Pazar, Serbia*

***University of Priština in Kosovska Mitrovica, Serbia*

WC I.6 BEP Comparison for Dual SC Systems using Different Decision Algorithms in the Presence of Interference

A. Panajotović, N. Sekulović, M. Stefanović, D. Drača

Faculty of Electronic Engineering, University of Niš, Serbia

WC I.7 Dual-hop Transmissions corrupted by Interferences over Asymmetric Fading Channels

A. M. Cvetković, J. Anastasov, G. T. Djordjević,
D. Milić
*Faculty of Electronic Engineering, University of Niš,
Serbia*

WC I.8 Radio Access Technology Selection Algorithm for Heterogeneous Wireless Networks based on Service Type, User Mobility and Network Load

M. Porjazoski, B. Popovski
*Faculty of Electrical Engineering and Information
Technologies, Ss. Cyril and Methodius University,
Skopje, Macedonia*

11:00 End of session



Room A
11:00

Friday, October 7

COMPUTATIONAL ELECTROMAGNETICS

Chairmen

B. Kolundzija
University of Belgrade, Serbia

N. Dončov
University of Niš, Serbia

Invited papers:

- CEM.1 Accelerating WIPL-D Numerical EM Kernel by Using Graphics Processing Units**
B. Kolundžija, D. Olčan, D. Zorić*, S. Marić*
Faculty of Electrical Engineering, University of Belgrade, Serbia
**WIPL-D d.o.o., Belgrade, Serbia*

Regular papers:

- CEM.2 TLM Modeling of Coaxially Loaded Cylindrical Cavity**
J. Joković, T. Dimitrijević
Faculty of Electronic Engineering, University of Niš, Serbia
- CEM.3 First Order Absorbing Boundary Condition in Large-Domain Finite Element Analysis of Electromagnetic Scatterers**
M. Ilić, S. Savić, B. Notaroš*
School of Electrical Engineering, University of Belgrade, Serbia
**Colorado State University, Fort Collins, USA*
- CEM.4 TEM Analysis of Multilayered Transmission Lines Using New Hybrid Boundary Element Method**
S. Ilić, S. Aleksić, N. Raičević
Faculty of Electronic Engineering, University of Niš, Serbia
- CEM.5 Near Field Analysis of the Horizontal Dipole Antenna above a Lossy Half-Space**
M. Rančić, S. Aleksić
Faculty of Electronic Engineering, University of Niš, Serbia
- CEM.6 Modelling of Hemispherical Ground Inhomogeneities**
N. Cvetković
Faculty of Electronic Engineering, University of Niš, Serbia
- CEM.7 An Efficient Sommerfeld's Integral Approximation for Calculating Electric Field of Vertical Currents**
V. Javor
Faculty of Electronic Engineering, University of Niš, Serbia

13:00

End of session



Room B
11:00

Friday, October 7

WIRELESS COMMUNICATIONS II

Chairmen

M. Stefanović
University of Niš, Serbia
A. Smiljanic
University of Belgrade, Serbia
D. Bajic
University of Novi Sad, Serbia

Invited papers:

**WC II.1 Heterogeneous Wireless Access Networks
Analysis from Simulation to Implementation**
O. Fratu, E. Popovici, A. Vulpe, S. Halunga
Politehnica University of Bucharest Romania

Regular papers:

**WC II.2 Enhanced Wireless Transmitters using an Inter-
Stage Notch Filter**
K. Chakrabarty, L. Athukorala, Z. Golubicić*,
Dj. Budimir
*University of Westminster, London, United
Kingdom*
**TTI Tecnologías de Telecomunicaciones y de la
Información Norte, Santander, Spain*

**WC II.3 Improving the VoIP Performances during
Vertical Handovers between WLAN and WiMAX**
K. Jakimoski, T. Janevski
*Faculty of Electrical Engineering and Information
Technologies, Ss. Cyril and Methodius University,
Skopje, Macedonia*

**WC II.4 Packet Length and Transmission Power
Adaptation for Energy-efficiency in Low-power
Wireless Communications**
N. Zogović, G. Dimić, D. Bajić*
Institute Mihajlo Pupin, Belgrade, Serbia
**Faculty of Technical Sciences, University of Novi
Sad, Serbia*

**WC II.5 Achievable Rates of the Amplify-and-Forward
Strategy for the Gaussian Relay Channel**
M. Rizinski, V. Kafedziski*
*Faculty of Electrical Engineering and Information
Technologies, Ss. Cyril and Methodius University,
Skopje, Macedonia*

**WC II.6 Capacity evaluation for maximal-ratio diversity
technique over Rician fading channels**
A. D. Cvetković, J. Anastasov, D. Milić,
M. Stefanović, S. Milosavljević*
*Faculty of Electronic Engineering, University of
Niš, Serbia*
**Faculty of Electronics, Faculty of Economics,
University of Priština in Kosovska Mitrovica, Serbia*

**WC II.7 On the Average SEP of Partially Coherent
MPSK Detection in the Presence of Hoyt Fading
and White Gaussian Noise**

B. Nikolić, G. T. Djordjević
*Faculty of Electronic Engineering, University of
Niš, Serbia*

**WC II.8 4th of January 2011 Solar Eclipse Induced
Disturbances in VLF Radio Waves Propagation**

P. Dolea, O. Cristea*, V. Dascal, T. Palade
Technical University of Cluj-Napoca, Romania
**BITNET CCSS SRL, Cluj-Napoca, Romania*

13:00 End of session



Room D
17:00

Wednesday, October 5

**Poster session - PO1–
MICROWAVES, ANTENNAS
AND PROPAGATION**

Chairmen

Z. Stankovic
University of Niš, Serbia

D. Vučić
School of Computing, Serbia

Regular papers:

**PO1.1 Analysis of Enclosure Shielding Properties
Dependence on Aperture Spacing and
Excitation Parameters**

V. Milutinović, T. Cvetković, B. Milovanović*,
N. Dončov*
*Republic Agency for Electronic Communications
Serbia*
**Faculty of Electronic Engineering, University of
Niš Serbia*

**PO1.2 Electronically Tunable Fractal Microstrip
Resonators and Filters**

K. Zemlyakov, V. Crnojević-Bengin*
St. Petersburg Electrotechnical University, Russia
**Faculty of Technical Sciences, University of Novi
Sad, Serbia*

**PO1.3 Pulse Measurements via Portable Wideband
Microwave Detector**

N. Mitrović, D. Obradović, P. Manojlović,
S. Jovanović
IMTEL Communications A.D., Belgrade, Serbia

**PO1.4 Quasi-Static Analysis of the Square Coaxial
Cable with Tellegen Bi-isotropic Material**

Ž. Mančić, V. V. Petrović*
*Faculty of Electronic Engineering, University of
Niš, Serbia*
**School of Electrical Engineering, University of
Serbia, Belgrade*

**PO1.5 Study of Electronically Tunable Circular Patch
Antenna**

Harish Kumar, M. D. Upadhayay*, Rajeev Kanth**,
Lasi Lisjeberg**
*Bhagwant Institute of Technology, Muzaffarnagar,
India*
**IIT Delhi, India*
***University of Turku, Finland*

**PO1.6 Signal Selective Direct Positioning Algorithm of
Wideband Cyclostationary Signals**

I. Pokrajac, D. Vučić*
Military Technical Institute, Serbia
**Union University, Serbia*

**PO1.7 DOA Estimation using Radial Basis Function
Neural Networks as Uniform Circular Antenna
Array Signal Procesor**

M. Agatonović, Z. Stanković, B. Milovanović,
N. Dončov
*Faculty of Electronic Engineering, University of
Niš, Serbia*

**PO1.8 Hybrid-empirical Neural Model for
Indoor/outdoor Path Loss Calculation**

M. Miličić, Z. Stanković, I. Milovanović*
*Faculty of Electronic Engineering, University of
Niš, Serbia*
**Singidunum University, Serbia*

19:00 End of session



Room D
17:00

Wednesday, October 5

**Poster session – PO2 –
DIGITAL SIGNAL
PROCESSING,**

Chairmen

M. Stojcev
University of Niš, Serbia
V. Krstić
Institut Mihajlo Pupin, Serbia
Aleksa Zejak
RT-RK LLC Serbia

Regular papers:

PO2.1 Blind Decision Feedback Equalizer for 64-QAM Systems

V. Krstić, M. Dukić*
Institute Mihajlo Pupin Serbia
**School of Electrical Engineering, University of Belgrade, Serbia*

PO2.2 Descriptors of Topographical Depressions: A Dimension Reducing Approach

T. Ferretti, D. Pokrajac, D. Strbac*
Delaware State University, Dover, USA
**Serbian Academy of Sciences and Arts, Serbia*

PO2.3 Address Generation Unit as Accelerator Block in DSP

M. Ilić, M. Stojčev
Faculty of Electronic Engineering, University of Niš, Serbia

PO2.4 Doppler Optimized Iterative Reweighed Lest Square Mismatch Pulse Compression Algorithm realization on the FPGA

A. Zejak, S. Simić*, I. Simić**
RT-RK Computer Based Systems LLC, Novi Sad, Serbia
**Military Academy, Belgrade, Serbia*
***Ericsson d.o.o., Serbia*

PO2.5 Range Sidelobe Reduction in the Portable Battlefield Surveillance Radar

S. Simić, A. Zejak*, Z. Golubičić**
Military Academy, Belgrade, Serbia
**RT-RK Computer Based Systems LLC, Novi Sad, Serbia*
***Peripolis elektronika, Serbia*

PO2.6 Cepstrum-based Analysis of Radar Doppler Signals

M. Andrić, D. Bujaković, B. Bondžulić, B. Zrnić*
Military Academy, Belgrade, Serbia
**Ministry of Defence, Belgrade, Serbia*

19:00 End of session



Room D
17:00

Wednesday, October 5

**Poster session – PO3 –
CONTROL SYSTEMS AND
MEASUREMENTS AND
ELECTRONIC COMPONENTS**

Chairmen

G. Đorđević
University of Niš, Serbia
D. Denić
University of Niš, Serbia
Z. Bundalo
University of Banjaluka, Bosnia&Herzegovina

Regular papers:

PO3.1 Monitoring the PLC based Industrial Control Systems through the Internet using Microsoft Robotics Developer Studio Technologies
D. Todorović, Z. Jovanović, G. S. Đorđević
Faculty of Electronic Engineering, University of Niš, Serbia

PO3.2 Software Environment for Calibration and Modeling of Low-cost Force Sensor System
M. Petković, M. Božić, D. Todorović,
G. S. Đorđević
Faculty of Electronic Engineering, University of Niš, Serbia

PO3.3 Testing the MATLAB Simulink-Based Frequency Response Analyzer
M. Naumović, R. De Keyser*, C.-Mihaela Ionescu*
Faculty of Electronic Engineering, University of Niš, Serbia
**Ghent University, Belgium*

PO3.4 Generation of the Power Quality Disturbances in LabVIEW Software Environment
M. M. Simić, D. Denić, D. Živanović, D. Taskovski*,
V. Dimčev*
Faculty of Electronic Engineering, University of Niš, Serbia
**University of Skopje, Macedonia*

PO3.5 Bridge Symmetric Crystal Oscillator
V. Papez, S. Papezova*
Faculty of Electrical Engineering, Czech Technical University in Prague, Czech Republic
**Faculty of Mechanical Engineering, Czech Technical University in Prague, Czech Republic*

PO3.6 Power Wire-wound RF Resistor with High Linearity

V. Papez, S. Papezova*

Faculty of Electrical Engineering, Czech Technical University in Prague, Czech Republic

**Faculty of Mechanical Engineering, Czech Technical University in Prague, Czech Republic*

PO3.7 Modelling of Solar Cells for Indoor Applications

A. Stjepanović, S. Stjepanović*, F. Softić**,
Z. Bundalo**

University of Easter Sarajevo, Dobož, Bosnia & Herzegovina

**Telekom Srpske, Bosnia & Herzegovina*

*** University of Banja Luka, Bosnia & Herzegovina*

19:00 End of session



Room D
17:00

Wednesday, October 5

**Poster session – PO4 –
COMPUTER SYSTEMS AND
INTERNET TECHNOLOGIES**

Chairmen

R. Popovic
Singidunum University, Serbia

N. Gospic
University of Belgrade, Serbia

Regular papers:

PO4.1 Evaluation of the Available Scripting Languages for Home Automation Networks: Real World Case Study

M. Bjelica, B. Mrazovac, N. Teslić*
Faculty of Technical Sciences, University of Novi Sad, Serbia
* RT-RK LLC, Novi Sad, Serbia

PO4.2 Some Aspects of Broadband Internet Growth and Limits

D. Bogojević, N. Gospić*
Alcatel-Lucent Serbia, Belgrade, Serbia
*Faculty of Transport and Traffic Engineering, University of Belgrade, Serbia

PO4.3 One Solution for Management of OTN Cross-connect Functionality Using SNMP

P. Knežević, N. Maksić*, M. Ilić, V. Kostić,
P. Micović, N. Radivojević
IRITEL AD, Belgrade, Serbia
*School of Electrical Engineering, University of Belgrade, Serbia

PO4.4 Delay Compensation Method for Time Synchronization in Wireless Sensor Networks

M. Kosanović, M. Stojčev*
High Technical School, Niš, Serbia
*Faculty of Electronic Engineering, University of Niš, Serbia

PO4.5 SOA Architecture for Complying with EU Railway Timetable Data Exchange Format

I. Branović, S. Vesković*, S. Mladenović*,
S. Milinković*, S. Janković*
Singidunum University, Belgrade, Serbia
*Faculty of Transport and Traffic Engineering, University of Belgrade, Serbia

PO4.6 A Comparison and Security Analysis of Cloud Computing Software Platforms

O. Popović, Z. Jovanović, N. Jovanović*,
R. Popović**
Business School, Blace, Serbia
*University of Priština in K. Mitrovica, Serbia
**Singidunum University, Belgrade, Serbia

19:00 End of session



Room D
17:00

Thursday, October 6

**Poster session – PO5 –
BROADCASTING AND
MULTIMEDIA
COMMUNICATIONS**

Chairmen

T. Janevski
University of Skopje, Macedonia

V. Radojicic
University of Belgrade, Serbia

Regular papers:

PO5.1 New Diffusion Model with Variable Market Potential

V. Radojičić, G. Z. Marković, B. Bakmaz
*Faculty of Transport and Traffic Engineering,
University of Belgrade, Serbia*

PO5.2 Effects of DVB-H and 3G Cellular Networks Integration

M. Popović, M. Šunjevarić*, Ž. Vujasinović
*Nokia Siemens Networks d.o.o., Banja Luka,
Bosnia & Herzegovina*
***RT-RK d.o.o., Institute for Computer Based
Systems, Novi Sad, Serbia*

PO5.3 Analysis of the Prediction of the DVB-T2 Pilot Network Signal Field Level in the City of Niš

D. Marković, D. Jakšić
JP Emisiona tehnika i veze, Belgrade, Serbia

PO5.4 The Possibility of Operating Analog Repeaters in DVB T/T2 Mode

D. Jakšić, D. Marković, S. Stanković, S. Marković
JP Emisiona tehnika i veze, Belgrade, Serbia

PO5.5 Adaptive QoS Cross-Layer Module for Multimedia Services in Heterogeneous Wireless Networks

T. Shuminoski, T. Janevski
*Faculty of Electrical Engineering and Information
Technologies, Ss. Cyril and Methodius University,
Skopje, Macedonia*

PO5.6 A MIH-enabled Emulated Network for Streaming Applications

A. Vulpe, O. Fratu
Politehnica University of Bucharest, Romania

19:00

End of session



Room D
17:00

Thursday, October 6

**Poster session – PO6 –
WIRELESS COMMUNICATIONS**

Chairmen

A. Tsenov

Technical University of Sofia, Bulgaria

N. Djuric

University of Novi Sad, Serbia

Regular papers:

PO6.1 Fuzzy Evaluation of Customer Satisfaction with Mobile Services

A. Tsenov, I. Ivanov, T. Poparova, S. Neykov,
L. Ivanova, M. Gadjeva

Technical University of Sofia, Bulgaria

PO6.2 Flat Routing Protocols for Ad Hoc Mobile Wireless Networks

D. Galatchi, R. Zoican

Politehnica University of Bucharest, Romania

PO6.3 Joint Multi-User Synchronization Parameters Estimation on the Uplink of the Mobile WiMAX

N. Ivković, M. Erić*

Vip mobile d.o.o., Belgrade, Serbia

**School of Electrical Engineering, University of Belgrade, Serbia*

PO6.4 Joint Direction of Departure, Time Delay, and Frequency Shift Estimation of Multi-user MC CDMA Signals in Multipath Scenario

M. Stojnić, M. Erić

University of Belgrade, Serbia

PO6.5 Big Events Capacity Analysis of the UMTS RAN

D. Vujić

University of Belgrade, Serbia

PO6.6 High-SNR Performance of Amplify-and-Forward Communication Systems with Fixed-gain Relays

K. Smiljkovic, Z. Hadzi-Velkov

Faculty of Electrical Engineering and Information Technologies, Ss. Cyril and Methodius University, Skopje, Macedonia

PO6.7 Orbcomm Space Segment for Mobile Satellite System (MSS)

S. Ilcev

Durban University of Technology, Durban, South Africa

PO6.8 Space Division Multiple Access (SDMA) Applicable for Mobile Satellite Communications

S. Ilcev

Durban University of Technology, Durban, South Africa

PO6.9 Low and Medium-Gain Antennas for Mobile Satellite Communications (MSC) and Navigation

S. Ilcev

Durban University of Technology, Durban, South Africa

PO6.10 Serbian Remote Monitoring System for Electromagnetic Environmental Pollution

N. Djurić, M. Prsa, V. Bajović, K. Kasas-Lazetić

Faculty of Technical Sciences, University of Novi Sad, Serbia

19:00 End of session



Room D
17:00

Thursday, October 6

**Poster session – PO7 –
MODULATIONS AND CODING**

Chairmen

B. Todorovic

*"RT-RK d.o.o.", Institute for
Computer Based Systems, Serbia*

M. Erić

University of Belgrade, Serbia

Regular papers:

**PO7.1 An Analog Multiplier Based on Asynchronous
Sigma-Delta Pulse Amplitude Modulation**

T. Matić, T. Švedek, M. Herceg
Faculty of Electrical Engineering, Osijek, Croatia

**PO7.2 Cyclic Spectral Analysis of OFDM/OQAM
Signals with Cyclostationary Signature**

D. Vučić, M. Erić*, S. Nedić**
*School of Computing, Union University, Belgrade,
Serbia*
**Faculty of Electrical Engineering, University of
Belgrade, Serbia*
***Faculty of Technical Sciences, University of
Novi Sad, Serbia*

**PO7.3 Choice of Suitable Monocycle Shape for Ultra
Wideband Systems**

V. Orlić, B. Todorović*
IMTEL Communications A.D., Belgrade, Serbia
***"RT-RK d.o.o.", Institute for Computer Based
Systems, Novi Sad, Serbia*

**PO7.4 Pseudo-Random Number Generator Based on
Irrational Numbers**

L. Milinković, M. Antić, Z. Čiča
*School of Electrical Engineering, University of
Belgrade, Serbia*

**PO7.5 True Random Binary Sequence Generator for
Secure Communications**

S. Sajić, B. Todorović*, N. Maletić
*Faculty of Electrical Engineering, Banja Luka,
Bosnia & Herzegovina*
***"RT-RK d.o.o.", Institute for Computer Based
Systems, Novi Sad, Serbia*

19:00

End of session



Room D
17:00

Thursday, October 6

**Poster session – PO8 –
TELECOMMUNICATION
NETWORKS, TECHNOLOGIES
AND SERVICES**

Chairmen

M. Stojanovic
University of Belgrade, Serbia

G. Djordjevic
University of Niš, Serbia

Regular papers:

PO8.1 A Layered Decentralized Management Architecture in Integration of SUNCE-M with SUNCE+

M. Stanić, N. Mičić, V. Vulićević, P. Knežević,
M. Ilić, D. Katanić
IRITEL AD, Belgrade, Serbia

PO8.2 Service Specification and Negotiation in Multi-Provider Networks: the Bilateral Approach

S. Boštjančič Rakas, M. Stojanović*
Institute Mihajlo Pupin, Belgrade, Serbia
*Faculty of Transport and Traffic Engineering,
University of Belgrade, Serbia

PO8.3 An Analysis of Performances of Multi Channel Routing Protocol based on Different Link Quality Metrics

M. Malnar, N. Nešković*
*Faculty of Transport and Traffic Engineering,
University of Belgrade, Serbia*
*Faculty of Electrical Engineering, University of
Belgrade, Serbia

PO8.4 Multi-Channel Media Access Control for Wireless Sensor Networks: a Survey

M. Jovanović, G. Lj. Djordjević, G. Nikolić,
B. Petrović
*Faculty of Electronic Engineering, University of
Niš, Serbia*

PO8.5 Design Aspects of Mobile Telemetry Application Protocol

E. Gospodinova, I. Atanasov, E. Pencheva
Technical University of Sofia, Bulgaria

PO8.6 Predicting the Churn of Telecommunication Service Users using Open Source Data Mining Tools

S. Sladojević, D. Čulibrk, V. Crnojević
*Faculty of Technical Sciences, University of Novi
Sad, Serbia*

PO8.7 A Novel Practical Approach for Establishing Security in the Communication Satellites

A. Chekini, K. Keyghobad*

Space Scientific Research Institute, Tehran, Iran

**Islamic Azad University – BONAB Branch and*

Space Scientific Research Institute, Tehran, Iran

PO8.8 Generating a Histogram of a Radio Signal Envelope and Statistical Estimation of the Probability Density Function of the Envelope in an Indoor 2.4 GHz Radio

E. Hasimbegović, S. Simić*

Bestel Engineering, Prijepolje, Serbia

**Military Academy, Belgrade, Serbia*

PO8.9 Low Power IR-UWB Pulse Generator in 0.18μm CMOS Technology

J. Radić, A. Djugova, M. Videnović-Mišić

Faculty of Technical Sciences, University of Novi

Sad, Serbia

PO8.10 Efficiency of Multimodal Real-Time Travel and Traffic Information Services Employing Mobile Communications

M. M Minea, I. Bădescu, S. Dumitrescu*

Politehnica University of Bucharest, Romania

**Electronic Solutions Ltd., Romania*

PO8.11 The Voice Fundamental Frequency Statistical Parameters under Noisy Conditions with the Cepstrum Method

J. Galić, T. Pešić-Brđanin

Faculty of Electrical Engineering, Banja Luka,

Bosnia & Herzegovina

19:00 End of session



Room C
13:00

Thursday, October 6

ROUND TABLE

Topic / Tema:

ICT in EU and Serbia: State-of-the-Art and Further Steps

ICT u EU i Srbiji: Trenutno stanje i budući koraci

Round table will be held in Serbian.

Organizer / Organizatori:

RATEL – Republic Agency for Electronic Communications
TELSIKS Conference
Regional Chamber of Economy Niš

Chairmen / Predsedništvo:

Vladanka Aćimović - Raspopović
RATEL Advisory Council Chairman

Jovan Radunović
RATEL Managing Board Chairman

Vančo Litovski
Chairman of the RCE ICT Coordination Board

Miroslav Dukić
RATEL Managing Board Member

Dragan Janković
Vice-Dean of the Faculty of Electronic Engineering

Saša Marković
Chairman of the RCE Niš ICT Society

Moderator:

Bratislav Milovanović
RATEL Advisory Council Vice-Chairman, TELSIKS Conference Chairman

Main goals:

In recent years numerous regulatory documents important for the ICT sector development have been released. There are lots of assignments of the strategic importance for the further ICT sector development in Serbia. The main goal of the round table is the analysis of state-of-the art of information and communication technologies and systems in Serbia and in the EU, professional discussion and defining further development directions.

The following aspects will be considered:

- All parts of an ICT/ICS chain: broadcasting, transmission and terminal equipment, technologies, hardware and software
- State-of-the-art in ICT strategies in EU as well as relevant EU ICT related documents
- State-of-the-art in ICT sector in Serbia
- Development perspectives regarding to the current regulatory documents:
 - o Strategy of telecommunication development
 - o Strategy of BBA development
 - o Strategy of DTV development
 - o Strategy of industry development
 - o Strategy of science development
- How to close the circle: Investments-Science-Industry-Investments? Possible problems? Proposals for realizations. Proposals for further actions.

Ciljevi:

Poslednjih par godina donet je niz dokumenata bitnih za strateški razvoj ICT sektora. Otvoren je veliki broj zadataka strateške prirode za dalji razvoj ICT sektora u Srbiji. Cilj okruglog stola je sagledavanje stanja informaciono komunikacionih tehnologija i sistema u Srbiji i Evropskoj Uniji, razmena stručnih mišljenja i definisanje budućih koraka koji će voditi bržem rešavanju gorućih pitanja u sektoru telekomunikacija.

Razmatraće se sledeći aspekti:

- Kompletan ICT/ICS lanac: emitovanje, prenos i terminalni uređaji, sve tehnologije, hardver i softver.
- ICT strategije u EU i relevantni EU dokumenti.
- Stanje ICT u Srbiji
- Perspektive razvoja ICT u Srbiji u svetlu važećih dokumenata
 - o Strategija razvoja telekomunikacija 2010
 - o Strategija razvoja BBA 2010
 - o Strategija razvoja DTV
 - o Strategija razvoja industrije
 - o Strategija razvoja nauke
- Kako uspostaviti krug: Investicije-Nauka-Industrija-Investicije? Šta su problemi da se ovo ostvari? Predlozi za realizaciju. Predlozi za dalje delovanje.

15:00

End of session

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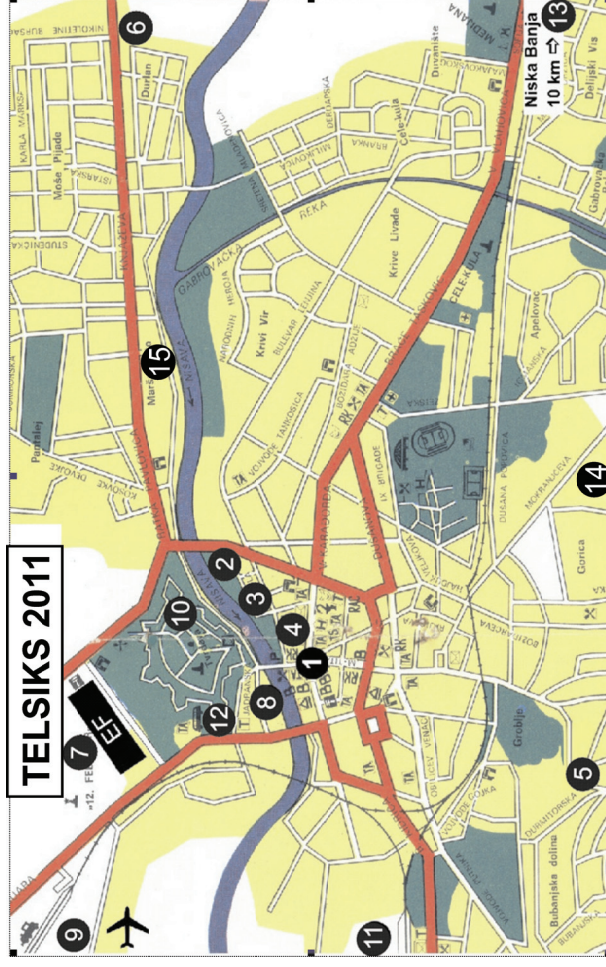
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1. City Centre
 2. Hotel My Place****
 3. Hotel Niški Cvet****
 4. Niš City Hall
 5. Hotel Aleksandar****
 6. Hotel Extra Lion MD***
 7. Faculty of Electronic Engineering
 8. University of Niš
 9. Airport
 10. Fortress
 11. Railway station
 12. Bus station
 13. Niška Banja
 14. Hotel Vidikovac ***
 15. Concert Hall of the Faculty of Arts
- EF – Faculty of Electronic Engineering

Notes:

Notes:

Session Name		Session mark
Electromagnetic Metamaterials		MTM
Computational Electromagnetics		CEM
Microwave Electronics		ME
Microwave Technique		MT
Signal Processing		SP
Image Processing		IP
Broadcasting and Multimedia Communications		BMC
Computer Systems and Internet Technologies		CIT
Coding and Modulation Techniques		CMT
Wireless Communications I		WC I
Wireless Communications II		WC II
Telecommunication Networks and Services		TNS
Telecommunication Systems and Technologies		TST
ICT in Education and Commerce (ICT)		ICT
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	Control Systems, Measurements and Electronic Components	PO3
	Computer Systems and Internet Technologies	PO4
	Broadcasting and Multimedia Communications	PO5
	Wireless Communications	PO6
	Modulations and Coding	PO7
	Telecommunication Networks, Technologies and Services	PO8
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Other Events		Mark
IEEE Executive Committee Meeting		IEEE
IEEE WIE Meeting		IEEE WIE
Serbian Cable Operators – Steering Boards Meeting		PUKOS
Regional Chamber of Commerce – ICT Society Meeting		RCC