### Conference Program

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

**TELSIKS**

**Faculty of Electronic Engineering**

**University of Niš**

**Serbia, Niš, 5 - 7 October**

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuesday October 4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17th</td>
<td>17th</td>
<td><strong>Registration</strong></td>
</tr>
<tr>
<td></td>
<td>19th</td>
<td></td>
</tr>
<tr>
<td><strong>Wednesday October 5</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09th</td>
<td>09th</td>
<td><strong>Registration</strong></td>
</tr>
<tr>
<td>10th</td>
<td>10th</td>
<td><strong>Opening and Plenary Lectures</strong></td>
</tr>
<tr>
<td></td>
<td>11th</td>
<td><strong>TELSIKS Welcome Cocktail Party</strong></td>
</tr>
<tr>
<td>13th</td>
<td></td>
<td><strong>MTM</strong></td>
</tr>
<tr>
<td></td>
<td>15th</td>
<td><strong>TST</strong></td>
</tr>
<tr>
<td></td>
<td>17th</td>
<td><strong>BMC</strong></td>
</tr>
<tr>
<td></td>
<td>17th</td>
<td><strong>CMT</strong></td>
</tr>
<tr>
<td></td>
<td>19th</td>
<td><strong>PO1-PO4</strong></td>
</tr>
<tr>
<td></td>
<td>21st</td>
<td><strong>Reception at the Mayor of Niš</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Musical performance</strong></td>
</tr>
<tr>
<td><strong>Thursday October 6</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09th</td>
<td></td>
<td><strong>CIT</strong></td>
</tr>
<tr>
<td>10th</td>
<td></td>
<td><strong>SP</strong></td>
</tr>
<tr>
<td>11th</td>
<td></td>
<td><strong>ME</strong></td>
</tr>
<tr>
<td></td>
<td>13th</td>
<td><strong>TNS</strong></td>
</tr>
<tr>
<td></td>
<td>15th</td>
<td><strong>Sightseeing tour</strong></td>
</tr>
<tr>
<td></td>
<td>17th</td>
<td><strong>IP</strong></td>
</tr>
<tr>
<td></td>
<td>19th</td>
<td><strong>ICT</strong></td>
</tr>
<tr>
<td></td>
<td>21st</td>
<td><strong>PO5-PO8</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Conference Dinner</strong></td>
</tr>
<tr>
<td><strong>Friday October 7</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09th</td>
<td></td>
<td><strong>MT</strong></td>
</tr>
<tr>
<td>10th</td>
<td></td>
<td><strong>WC I</strong></td>
</tr>
<tr>
<td>11th</td>
<td></td>
<td><strong>CEM</strong></td>
</tr>
<tr>
<td></td>
<td>13th</td>
<td><strong>WC II</strong></td>
</tr>
<tr>
<td></td>
<td>15th</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17th</td>
<td></td>
</tr>
</tbody>
</table>
On behalf of the Technical Program Committee it is my
pleasure to invite you to attend the jubilee 10th TELSIKS
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 TELSIKS 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 TELSIKS
Conference has got an international character. That year
the Conference was sponsored by IEEE Microwave
Theory and Techniques Society for the first time. Since
TELSIKS’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 form 1999, the Conference Proceedings have
been distributed by IEEE Book Broker post conference
distribution program (TELSIKS 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 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.

Prof. Dr. Bratislav Milovanović
Conference Chairman
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:

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.
Contents

Technical Program Committee ..................................................... 1
Conference Organizing Committee ............................................. 2
Conference Executive Committee ............................................. 3
Conference Secretariat ............................................................. 4
Conference Internet Site .......................................................... 4
TELSIKS History .................................................................. 5
Venue .................................................................................... 8
Travel Information .................................................................. 9
Visas ..................................................................................... 9
Climate .................................................................................. 9
Registration and Information Desks ....................................... 10
Fees .................................................................................... 10
Fee Payment ......................................................................... 10
Mail and Messages ............................................................. 11
Social Program .................................................................... 12
Language ............................................................................ 12
Paper Presentation ................................................................ 12
Conference Topics .............................................................. 13
Technical Program .............................................................. 13
Round tables ......................................................................... 14
Special Events ...................................................................... 14
Conference Program ........................................................... 15
Opening Session ................................................................... 17
Plenary Session .................................................................... 18
Electromagnetic Metamaterials .............................................. 19
Telecommunication Systems and Technologies ............... 20
Broadcasting and Multimedia Communications .............. 21
Coding and Modulation Techniques .................................. 22
Computer Systems and Internet Technologies ................. 23
Signal Processing ................................................................. 24
Microwave Electronics ........................................................ 26
Telecommunication Networks and Services .................. 27
Image Processing ................................................................... 29
ICT in Education and Commerce ...................................... 30
Microwave Technique .......................................................... 31
Wireless Communications I .................................................. 32
Computational Electromagnetics ......................................... 34
Wireless Communications II ............................................... 35
Poster Session 1 – Microwaves, Antennas and Propagation ................................................................. 37
Poster Session 2 – Digital Signal Processing ...................... 39
Poster Session 3 – Control Systems and Measurements and Electronic Components .................. 40
Poster Session 4 – Computer Systems and Internet Technologies .......................................................... 42
Poster Session 5 – Broadcasting and Multimedia Communications ......................................................... 43
Poster Session 6 – Wireless Communications ..................... 44
Poster Session 7 – Modulations and Coding ....................... 46
Poster Session 8 – Telecommunication Networks, Technologies and Services .................. 47
Round Table ....................................................................... 49
Author Index ....................................................................... 51
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 Hawai 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. Drajč  University of Belgrade, Serbia
I. Đorđević  University of Arizona, USA
O. Fratu  University Politehnica of Bucharest, Romania
L. Gavrilovska  University "Ss Cyril and Methodious", 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  IRITEIL, 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. Tomazić 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-Iljić University of Niš, Serbia
Z. Marčinković 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 TELSIKS’99 Proceedings was published as an IEEE publication, which has been distributed by IEEE Book Broker post conference distribution program. Since that year, all TELSIKS conference papers have been accessible through IEEE Xplore.

5th TELSIKS 2001 Conference was held in September, 19-21, 2001. The list of TELSIKS 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 TELSIKS 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 TELSIKS 2003 Proceedings are included in the INSPEC data base of international IEE Society.

7th TELSIKS 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. TELSIKS 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 TELSIKS 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. TELSIKS 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 TELSIKS 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. TELSIKS 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 TELSIKS Conference – TELSIKS 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, TELSIKS 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 TELSIKS Conference – TELSIKS 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, Ćele Kula (Tower of Sculls), built by Turks in 1809, with the sculls 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 Bubanj 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:

- **Tuesday, October 4**, 17:00 - 19:00
- **Wednesday, October 5**, 09:00 - 19:00
- **Thursday, October 6**, 08:30 - 19:00
- **Friday, October 7**, 08:30 - 13:00

**FEES**

The registration fees are:

<table>
<thead>
<tr>
<th>CONFERENCES*</th>
<th>Foreign participants (€)</th>
<th>Participants from Serbia (RSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full rate</td>
<td>350</td>
<td>By National Bank of Serbia exchange rate</td>
</tr>
<tr>
<td>IEEE Members</td>
<td>270</td>
<td>By National Bank of Serbia exchange rate</td>
</tr>
<tr>
<td>Student rate</td>
<td>180</td>
<td>By National Bank of Serbia exchange rate</td>
</tr>
</tbody>
</table>

*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:**
   - SWIFT code: DEUTDEFF
   - DEUTSCHE BANK ag
   - FRANKFURT AM MAIN, GERMANY

57: **Account With Institution:**
   - SWIFT 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)
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 TELSIKS 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
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 Gutot**
ITU Radiocommunication Bureau, Switzerland
*Bundesnetzagentur (BNetzA), Switzerland
**Agence Nationale des Fréquences (ANFR), Switzerland

12:00 End of session
Wednesday, October 5

Room A
15:00

ELECTROMAGNETIC METAMATERIALS

Chairman
C. Caloz
Ecole Polytechnique de Montréal, 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 Montréal, 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 Montréal, 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 Đončev, 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. Cartignan, D. M’enard, C. Caloz
Ecole Polytechnique de Montréal, Canada

17:00 End of session
Wednesday, October 5

Room B
15:00

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. Frantlivić, 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
Wednesday, October 5

Room A
17:00

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
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 Srithar, 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. Maghei
POLITEHNICA University of Bucharest, Romania

19:00 End of session
Room B
17:00

**Coding and Modulation Techniques**

**Chairman**
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. Ivanš, 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. Djirović, V. Šenk, B. Vasić*
University of Novi Sad, Serbia
*University of Arizona, Tucson, USA

19:00 End of session
Thursday, October 6

Room A
09:00

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. Vujčić-Stanković, G. Rakčević*, 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. Culibrk, P. Lugonja, M. Mirković, V. Crnojević
University of Novi Sad, Serbia

11:00 End of session
Thursday, October 6

Room B
9:00

SIGNAL PROCESSING

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. Ćertić
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

End of session
Thursday, October 8

Room A
11:00

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
V. Vadali*, 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. Pronic-Randić, V. Marković
Faculty of Electronic Engineering, University of Niš, Serbia

13:00 End of session
Thursday, October 6

Room B
11:00

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*
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. Acimović-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. Željković, 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. Đukanović, 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. Čučaj*
Margento d.o.o., Maribor, Slovenia
*University of Maribor, Slovenia

13:00  End of session
Thursday, October 6

Room A
17:00

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
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
*Université 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. Lučić, 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. Barač, 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
Friday, October 7

**MICROWAVE TECHNIQUE**

**Chairman**
C. Caloz  
Ecole Polytechnique de Montréal Canada
A. Nešić  
IMTEL Komunikacije A.D. Serbia
V. Crnojević-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 Montréal Canada  
**Kansai University Osaka, Japan**

**MT.2**  
Compact Equivalent Network Synthesis for Double-Symmetric Four-Ports  
J. Russer, N. Donćov*, F. Mukhtar, B. Stolić*,  
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. Stolić  
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**  
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

**End of session**
Friday, October 7

Room B
09:00

WIRELESS COMMUNICATIONS I

Chairmen:
S. Halungu
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. Kršić, 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

COMPUTATIONAL ELECTROMAGNETICS

Chairmen
B. Kolundžija
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. Očan, 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. Notaros*
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
Friday, October 7

Room B
11:00

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
University of Westminster, London, United Kingdom
*TTI Tecnologías de Telecomunicaciones y de la Informacion 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
*Faculty of Electronics, Faculty of Economics, University of Priština in Kosovska Mitrovica, Serbia

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
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 ofElectronic Engineering, University of Niš, Serbia

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
**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. Upadhyay*, 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*
DOA Estimation using Radial Basis Function Neural Networks as Uniform Circular Antenna Array Signal Processor
M. Agatonović, Z. Stanković, B. Milovanović, N. Dončov
Faculty of Electronic Engineering, University of Niš, Serbia

Hybrid-empirical Neural Model for Indoor/outdoor Path Loss Calculation
M. Milijić, Z. Stanković, I. Milovanović*
Faculty of Electronic Engineering, University of Niš, Serbia
*Singidunum University, Serbia

End of session
Wednesday, October 5

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

**Room D**

**17:00**

**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. Srbarc*  
*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. Stojcev  
*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. Golubčić**  
*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
**Wednesday, October 5**

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

**Chairman**

- G. Đorđević  
  University of Niš, Serbia
- D. Đenić  
  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. Đenić, 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. Sofić**, Z. Bundalo**
University of Easter Sarajevo, Doboj, Bosnia & Herzegovina
*Telekom Srpske, Bosnia & Herzegovina
**University of Banja Luka, Bosnia & Herzegovina

19:00  End of session
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. Stojićev*
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 Pristina in K. Mitrovica, Serbia
**Singidunum University, Belgrade, Serbia

19:00 End of session
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
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. Erčić  
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. Erčić  
University of Belgrade, Serbia

**PO6.5** Big Events Capacity Analysis of the UMTS RAN  
D. Vujičić  
University of Belgrade, Serbia

**PO6.6** High-SNR Performance of Amplify-and-Forward Communication Systems with Fixed-gain Relays  
K. Smiljkovik, 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. Iliev
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
Thursday, October 6

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

**Room D**

17:00

**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
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. Mićić, 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. Bošjanić 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. Culibrk, 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
Thursday, October 6

Room C
13:00

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 Ačimović - 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

Ciljevi:
Poslednjih par godina donet je niz dokumenata bitnih zastrateški 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 svetu važećih dokumenata
  o Strategija razvoja telekomunikacija 2010
  o Strategija razvoja BBA 2010
  o Strategija razvoja DTV
  o Strategija razvoja industrije
  o Strategija razvoja nauke

15:00 End of session
<table>
<thead>
<tr>
<th>Author Name</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abielmona Samer</td>
<td>19</td>
</tr>
<tr>
<td>Acimović-Raspopović</td>
<td>27</td>
</tr>
<tr>
<td>Agatonović Marija</td>
<td>38</td>
</tr>
<tr>
<td>Aleksić Slavoljub</td>
<td>34, 34</td>
</tr>
<tr>
<td>Anastasov Jelena</td>
<td>33, 35</td>
</tr>
<tr>
<td>Andrei Valentin</td>
<td>21</td>
</tr>
<tr>
<td>Andrić Milenko</td>
<td>39</td>
</tr>
<tr>
<td>Antić Manja</td>
<td>46</td>
</tr>
<tr>
<td>Arabaci Murat</td>
<td>22</td>
</tr>
<tr>
<td>Atanasov Ilyaylo</td>
<td>27, 47</td>
</tr>
<tr>
<td>Athukorala L.</td>
<td>35</td>
</tr>
<tr>
<td>Avolio Gustavo</td>
<td>26</td>
</tr>
<tr>
<td>Babić Djordje</td>
<td>25</td>
</tr>
<tr>
<td>Badescu Alina-Mihaela</td>
<td>22</td>
</tr>
<tr>
<td>Bădescu Iulian</td>
<td>48</td>
</tr>
<tr>
<td>Bajić Dragana</td>
<td>35</td>
</tr>
<tr>
<td>Bajović Vera</td>
<td>45</td>
</tr>
<tr>
<td>Bakmaz Bojan</td>
<td>27, 43</td>
</tr>
<tr>
<td>Bakmaz Miodrag</td>
<td>27</td>
</tr>
<tr>
<td>Bandjur Miloš</td>
<td>32</td>
</tr>
<tr>
<td>Barać Dušan</td>
<td>30</td>
</tr>
<tr>
<td>Barbarić Zarko</td>
<td>20</td>
</tr>
<tr>
<td>Bjelica Milan</td>
<td>42</td>
</tr>
<tr>
<td>Blagojević Vesna</td>
<td>32</td>
</tr>
<tr>
<td>Blau Kurt</td>
<td>26</td>
</tr>
<tr>
<td>Bogdanović Vesna</td>
<td>20</td>
</tr>
<tr>
<td>Bogdanović Zorica</td>
<td>30</td>
</tr>
<tr>
<td>Bogdanović-Dinić Sanja</td>
<td>30</td>
</tr>
<tr>
<td>Bogojević Dragan</td>
<td>42</td>
</tr>
<tr>
<td>Bojanić Radovan</td>
<td>19</td>
</tr>
<tr>
<td>Bojanić Slobodan</td>
<td>23</td>
</tr>
<tr>
<td>Bojković Zoran</td>
<td>21</td>
</tr>
<tr>
<td>Bojković Miroslav</td>
<td>30</td>
</tr>
<tr>
<td>Bondžulić Boban</td>
<td>29, 39</td>
</tr>
<tr>
<td>Boštjančič Rakas Slavica</td>
<td>47</td>
</tr>
<tr>
<td>Božić Miroslav</td>
<td>40</td>
</tr>
<tr>
<td>Branoović Irina</td>
<td>42</td>
</tr>
<tr>
<td>Brikči Srdjan</td>
<td>32</td>
</tr>
<tr>
<td>Brzozowski Marcin</td>
<td>27</td>
</tr>
<tr>
<td>Budimir Djuradj</td>
<td>26, 35</td>
</tr>
<tr>
<td>Bujaković Dimitrije</td>
<td>39</td>
</tr>
<tr>
<td>Bundalo Zlatko</td>
<td>41</td>
</tr>
<tr>
<td>Caddemi Alina</td>
<td>26, 26</td>
</tr>
<tr>
<td>Caloz Christophe</td>
<td>18, 19, 19, 19, 31</td>
</tr>
<tr>
<td>Carignan Louis-Philippe</td>
<td>19</td>
</tr>
<tr>
<td>Castoldi Piero</td>
<td>27</td>
</tr>
<tr>
<td>Cerutti Isabella</td>
<td>27</td>
</tr>
<tr>
<td>Chakrabarty K.</td>
<td>35</td>
</tr>
<tr>
<td>Chekini Amir</td>
<td>48</td>
</tr>
<tr>
<td>Chen Hsiao-Hwa</td>
<td>28</td>
</tr>
<tr>
<td>Craciunescu Razvan</td>
<td>32</td>
</tr>
<tr>
<td>Cristea Octavian</td>
<td>36</td>
</tr>
<tr>
<td>Crnojević Vladimir</td>
<td>23, 47</td>
</tr>
<tr>
<td>Crnojević-Bengin Vesna</td>
<td>31, 37</td>
</tr>
<tr>
<td>Crupi Giovanni</td>
<td>26, 26, 30</td>
</tr>
<tr>
<td>Cvetković D. Aleksandra</td>
<td>35</td>
</tr>
<tr>
<td>Cvetković M. Aleksandra</td>
<td>33</td>
</tr>
<tr>
<td>Cvetković Nenad</td>
<td>34</td>
</tr>
<tr>
<td>Cvetković Stevica</td>
<td>29</td>
</tr>
<tr>
<td>Cvetković Tatjana</td>
<td>37</td>
</tr>
<tr>
<td>Čiça Zoran</td>
<td>23, 46</td>
</tr>
<tr>
<td>Ćučej Zarko</td>
<td>28</td>
</tr>
<tr>
<td>Ćertić Jelena</td>
<td>24</td>
</tr>
<tr>
<td>Ćirić Dejan</td>
<td>25</td>
</tr>
<tr>
<td>Ćulbrk Dubravko</td>
<td>23, 47</td>
</tr>
<tr>
<td>Dalarsson Mariana</td>
<td>19</td>
</tr>
<tr>
<td>Dalarsson Nils</td>
<td>19</td>
</tr>
<tr>
<td>Dascal Vlad</td>
<td>36</td>
</tr>
<tr>
<td>Dedić-Nešić Snežana</td>
<td>24</td>
</tr>
<tr>
<td>Denić Dragan</td>
<td>40</td>
</tr>
<tr>
<td>Despotović- Zrakić Marijana</td>
<td>30</td>
</tr>
<tr>
<td>Difalco Sergio</td>
<td>26</td>
</tr>
<tr>
<td>Dimčev Vladimir</td>
<td>40</td>
</tr>
<tr>
<td>Dimić Goran</td>
<td>35</td>
</tr>
<tr>
<td>Dimitrijevi Marko</td>
<td>23</td>
</tr>
<tr>
<td>Dimitrijevi Tijana</td>
<td>34</td>
</tr>
<tr>
<td>Dolea Paul</td>
<td>36</td>
</tr>
<tr>
<td>Dončov Neboša</td>
<td>19, 31, 37, 38</td>
</tr>
<tr>
<td>Drača Dragan</td>
<td>32</td>
</tr>
<tr>
<td>Drajić Dušan</td>
<td>22, 32</td>
</tr>
<tr>
<td>Dujković Dragi</td>
<td>24</td>
</tr>
<tr>
<td>Đukić Miroslav</td>
<td>20, 39</td>
</tr>
<tr>
<td>Đumitrescu Sorin</td>
<td>48</td>
</tr>
<tr>
<td>Đokić Ivan</td>
<td>20</td>
</tr>
<tr>
<td>Đordjević Ivan</td>
<td>22</td>
</tr>
<tr>
<td>Đordjević Lj. Goran</td>
<td>47</td>
</tr>
<tr>
<td>Đordjević S. Goran</td>
<td>40</td>
</tr>
<tr>
<td>Đordjević T. Goran</td>
<td>33, 36</td>
</tr>
<tr>
<td>Đujgova Alena</td>
<td>48</td>
</tr>
<tr>
<td>Đukanović Goran</td>
<td>28</td>
</tr>
<tr>
<td>Đurić Nikola</td>
<td>22, 45</td>
</tr>
<tr>
<td>Đurić Zoran</td>
<td>20</td>
</tr>
<tr>
<td>Đurović Z.</td>
<td>26</td>
</tr>
<tr>
<td>Erić Miliko</td>
<td>44, 44, 46</td>
</tr>
<tr>
<td>Faci Noura</td>
<td>30</td>
</tr>
<tr>
<td>Ferić Dejan</td>
<td>20</td>
</tr>
<tr>
<td>Ferretti Thomas</td>
<td>39</td>
</tr>
<tr>
<td>Frantićović Miloš</td>
<td>20</td>
</tr>
<tr>
<td>Fratu Octavian</td>
<td>22, 32, 35, 43</td>
</tr>
</tbody>
</table>

51
<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gadjeva Marieta</td>
<td>44</td>
</tr>
<tr>
<td>Galatchi Dan</td>
<td>44</td>
</tr>
<tr>
<td>Galić Jovan</td>
<td>48</td>
</tr>
<tr>
<td>Gavrić Katarina</td>
<td>23</td>
</tr>
<tr>
<td>Gavrilescu Mihai</td>
<td>21</td>
</tr>
<tr>
<td>Gavrovska Ana</td>
<td>29, 29</td>
</tr>
<tr>
<td>Geschke Riana</td>
<td>31</td>
</tr>
<tr>
<td>Golubicić Z.</td>
<td>35</td>
</tr>
<tr>
<td>Golubicić Zoran</td>
<td>39</td>
</tr>
<tr>
<td>Gospić Nataša</td>
<td>28, 42</td>
</tr>
<tr>
<td>Gospodinova Elitsa</td>
<td>47</td>
</tr>
<tr>
<td>Gravey Annie</td>
<td>27</td>
</tr>
<tr>
<td>Gravey Philippe</td>
<td>27</td>
</tr>
<tr>
<td>Grubišić Lenkica</td>
<td>24</td>
</tr>
<tr>
<td>Guitot Jean-Jacques</td>
<td>18</td>
</tr>
<tr>
<td>Hadzi-Velkov Zoran</td>
<td>44</td>
</tr>
<tr>
<td>Halunga Simona</td>
<td>21, 22, 32, 35</td>
</tr>
<tr>
<td>Hasimbegović Emir</td>
<td>48</td>
</tr>
<tr>
<td>Hein Matthias</td>
<td>26</td>
</tr>
<tr>
<td>Herceg Marijan</td>
<td>20, 46</td>
</tr>
<tr>
<td>Horić Yasushi</td>
<td>31</td>
</tr>
<tr>
<td>Iloic Stojce</td>
<td>44, 44, 45</td>
</tr>
<tr>
<td>Ilić Marko</td>
<td>39</td>
</tr>
<tr>
<td>Ilić Milan</td>
<td>34</td>
</tr>
<tr>
<td>Ilić Miroslav</td>
<td>42, 47</td>
</tr>
<tr>
<td>Ilić Saša</td>
<td>34</td>
</tr>
<tr>
<td>Ilić Georgi</td>
<td>20</td>
</tr>
<tr>
<td>Ionescu Clara-Mihaela</td>
<td>40</td>
</tr>
<tr>
<td>Ivančić Predrag</td>
<td>22, 32, 32</td>
</tr>
<tr>
<td>Ivanov Ivan</td>
<td>44</td>
</tr>
<tr>
<td>Ivković Nikola</td>
<td>44</td>
</tr>
<tr>
<td>Jakimoski Kire</td>
<td>35</td>
</tr>
<tr>
<td>Jakšić Dejan</td>
<td>43, 43</td>
</tr>
<tr>
<td>Jakšić Zoran</td>
<td>19</td>
</tr>
<tr>
<td>Janevski Toni</td>
<td>35, 43</td>
</tr>
<tr>
<td>Janković Milan</td>
<td>20, 20</td>
</tr>
<tr>
<td>Janković Sladjana</td>
<td>42</td>
</tr>
<tr>
<td>Javor Vesna</td>
<td>34</td>
</tr>
<tr>
<td>Jevremović Aleksandar</td>
<td>30</td>
</tr>
<tr>
<td>Jević Dubravka</td>
<td>29</td>
</tr>
<tr>
<td>Jokanović Branka</td>
<td>19</td>
</tr>
<tr>
<td>Jokić Ivana</td>
<td>20</td>
</tr>
<tr>
<td>Joković Jugoslav</td>
<td>34</td>
</tr>
<tr>
<td>Jovanović Milica</td>
<td>47</td>
</tr>
<tr>
<td>Jovanović Nenad</td>
<td>42</td>
</tr>
<tr>
<td>Jovanović Siniša</td>
<td>37</td>
</tr>
<tr>
<td>Jovanović Zoran</td>
<td>42</td>
</tr>
<tr>
<td>Jovanović D. Zoran</td>
<td>40</td>
</tr>
<tr>
<td>Jovičić Nenad</td>
<td>20</td>
</tr>
<tr>
<td>Kafedziski Venceslav</td>
<td>35</td>
</tr>
<tr>
<td>Kajan Eujub</td>
<td>23</td>
</tr>
<tr>
<td>Kalpić Damir</td>
<td>30</td>
</tr>
<tr>
<td>Kanth Rajeev Kumar</td>
<td>19, 37</td>
</tr>
<tr>
<td>Kasas-Lazetić Karolina</td>
<td>45</td>
</tr>
<tr>
<td>Katanić Dragan</td>
<td>47</td>
</tr>
<tr>
<td>Kayghobad Kiyan</td>
<td>48</td>
</tr>
<tr>
<td>Keyser Robin De</td>
<td>40</td>
</tr>
<tr>
<td>Kim Bumman</td>
<td>26</td>
</tr>
<tr>
<td>Kim Do Nyeon</td>
<td>21</td>
</tr>
<tr>
<td>Kim Jungjoon</td>
<td>26</td>
</tr>
<tr>
<td>Klampfer Saša</td>
<td>28</td>
</tr>
<tr>
<td>Knežević Petar</td>
<td>42, 47</td>
</tr>
<tr>
<td>Kolundžija Branko</td>
<td>31, 34</td>
</tr>
<tr>
<td>Kosanović Mirko</td>
<td>42</td>
</tr>
<tr>
<td>Kostić Vladimir</td>
<td>42</td>
</tr>
<tr>
<td>Kostić Zona</td>
<td>30</td>
</tr>
<tr>
<td>Kostić-Ljubisavljević</td>
<td></td>
</tr>
<tr>
<td>Aleksandra</td>
<td>27</td>
</tr>
<tr>
<td>Kountchev Roumen</td>
<td>29</td>
</tr>
<tr>
<td>Kountcheva Roumiana</td>
<td>29</td>
</tr>
<tr>
<td>Kovačević Vladimir</td>
<td>29</td>
</tr>
<tr>
<td>Kraemer Rolf</td>
<td>27</td>
</tr>
<tr>
<td>Krishnan Anantha Rama</td>
<td>22</td>
</tr>
<tr>
<td>Krstić Dragan</td>
<td>32</td>
</tr>
<tr>
<td>Krstić Vladimir</td>
<td>39</td>
</tr>
<tr>
<td>Kumar Harish</td>
<td>19, 37</td>
</tr>
<tr>
<td>Lazić Ljubomir</td>
<td>23</td>
</tr>
<tr>
<td>Liljeborg Pasi</td>
<td>19</td>
</tr>
<tr>
<td>Liljeborg Lasi</td>
<td>37</td>
</tr>
<tr>
<td>Litovski Vančo</td>
<td>23</td>
</tr>
<tr>
<td>Lugonja Predrag</td>
<td>23</td>
</tr>
<tr>
<td>Luči Ljerka</td>
<td>30</td>
</tr>
<tr>
<td>Lutovac Maja</td>
<td>24</td>
</tr>
<tr>
<td>Lutovac Miroslav</td>
<td>20, 24, 24, 24</td>
</tr>
<tr>
<td>M’enard David</td>
<td>47</td>
</tr>
<tr>
<td>Maamari Zakaria</td>
<td>23, 30</td>
</tr>
<tr>
<td>Magheli Mihnea</td>
<td>21</td>
</tr>
<tr>
<td>Maksić Nataša</td>
<td>42</td>
</tr>
<tr>
<td>Maleš-Ilić Nataša</td>
<td>26</td>
</tr>
<tr>
<td>Maletić Nebojša</td>
<td>46</td>
</tr>
<tr>
<td>Malnar Marija</td>
<td>47</td>
</tr>
<tr>
<td>Manić Žaklina</td>
<td>37</td>
</tr>
<tr>
<td>Manojlić Predrag</td>
<td>37</td>
</tr>
<tr>
<td>Maru Ioanaa</td>
<td>22, 32</td>
</tr>
<tr>
<td>Marić Sladjan</td>
<td>34</td>
</tr>
<tr>
<td>Marinović Zlatica</td>
<td>26, 26, 30</td>
</tr>
<tr>
<td>Marinesa Dora</td>
<td>27</td>
</tr>
<tr>
<td>Markov V. 31</td>
<td></td>
</tr>
<tr>
<td>Marković Dragan</td>
<td>30</td>
</tr>
<tr>
<td>Marković Dušan</td>
<td>43, 43</td>
</tr>
<tr>
<td>Marković Z. Goran</td>
<td>43</td>
</tr>
<tr>
<td>Marković Slobodan</td>
<td>43</td>
</tr>
<tr>
<td>Marković Vera</td>
<td>26, 26</td>
</tr>
<tr>
<td>Matavulj Ljiljana</td>
<td>20</td>
</tr>
<tr>
<td>Matić Tomislav</td>
<td>46</td>
</tr>
<tr>
<td>Mekić Edis</td>
<td>32</td>
</tr>
<tr>
<td>Mićić Nebojša</td>
<td>47</td>
</tr>
<tr>
<td>Micović Predrag</td>
<td>42</td>
</tr>
<tr>
<td>Mihajlinović Boris</td>
<td>30</td>
</tr>
<tr>
<td>Milić Aleksandar</td>
<td>30</td>
</tr>
<tr>
<td>Milić Dejan</td>
<td>33, 35</td>
</tr>
<tr>
<td>Name</td>
<td>Age</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Milić Ljiljana</td>
<td>24</td>
</tr>
<tr>
<td>Milijić Marija</td>
<td>38</td>
</tr>
<tr>
<td>Milinković Luka</td>
<td>46</td>
</tr>
<tr>
<td>Milinković Sanjin</td>
<td>42</td>
</tr>
<tr>
<td>Milojković Jelena</td>
<td>23</td>
</tr>
<tr>
<td>Milosavlijević Srdan</td>
<td>35</td>
</tr>
<tr>
<td>Milošević Vojislav</td>
<td>19</td>
</tr>
<tr>
<td>Milovanović Bratislav</td>
<td>36, 31, 37, 38</td>
</tr>
<tr>
<td>Milovanović Dragorad</td>
<td>21</td>
</tr>
<tr>
<td>Milovanović Ivan</td>
<td>38</td>
</tr>
<tr>
<td>Milutinović Veljko</td>
<td>23</td>
</tr>
<tr>
<td>Milutinović Vesna</td>
<td>37</td>
</tr>
<tr>
<td>Minea Marius</td>
<td>48</td>
</tr>
<tr>
<td>Mirković Milan</td>
<td>23</td>
</tr>
<tr>
<td>Mitrović Nemanja</td>
<td>37</td>
</tr>
<tr>
<td>Mladenović Snežana</td>
<td>27, 42</td>
</tr>
<tr>
<td>Mladenović Vladimir</td>
<td>24</td>
</tr>
<tr>
<td>Moon Junghwan</td>
<td>26</td>
</tr>
<tr>
<td>Morvan Michel</td>
<td>27</td>
</tr>
<tr>
<td>Mostefauou Suraya Kouadri</td>
<td>30</td>
</tr>
<tr>
<td>Mrazovac Bojan</td>
<td>42</td>
</tr>
<tr>
<td>Mukhtar Farooq</td>
<td>31</td>
</tr>
<tr>
<td>Nakamatsu Kazumi</td>
<td>23</td>
</tr>
<tr>
<td>Naumović Milica</td>
<td>40</td>
</tr>
<tr>
<td>Nešić Aleksandar</td>
<td>31</td>
</tr>
<tr>
<td>Nešić Dušan</td>
<td>31</td>
</tr>
<tr>
<td>Nešković Nataša</td>
<td>47</td>
</tr>
<tr>
<td>Neykov Strachil</td>
<td>44</td>
</tr>
<tr>
<td>Nguyen Hoang Van</td>
<td>19</td>
</tr>
<tr>
<td>Nikfal Babak</td>
<td>31</td>
</tr>
<tr>
<td>Nikolić Bojana</td>
<td>36</td>
</tr>
<tr>
<td>Nikolić Goran</td>
<td>47</td>
</tr>
<tr>
<td>Nikolić Jelena</td>
<td>22</td>
</tr>
<tr>
<td>Nikolić V. Szaša</td>
<td>29</td>
</tr>
<tr>
<td>Norgren Martin</td>
<td>19</td>
</tr>
<tr>
<td>Notaroš Branislav</td>
<td>34</td>
</tr>
<tr>
<td>Nowak Stefan</td>
<td>27</td>
</tr>
<tr>
<td>Obadović Dragan</td>
<td>37</td>
</tr>
<tr>
<td>Odadžić Borslav</td>
<td>20</td>
</tr>
<tr>
<td>Olčan Dragan</td>
<td>34</td>
</tr>
<tr>
<td>Orlić Vladimir</td>
<td>46</td>
</tr>
<tr>
<td>Ovcharov Miglen</td>
<td>20</td>
</tr>
<tr>
<td>Palade Tudor</td>
<td>36</td>
</tr>
<tr>
<td>Panajotović Aleksandra</td>
<td>32</td>
</tr>
<tr>
<td>Panajotović Boban</td>
<td>20</td>
</tr>
<tr>
<td>Pantić Aleksandar</td>
<td>254</td>
</tr>
<tr>
<td>Pepež Vlaclav</td>
<td>40, 41</td>
</tr>
<tr>
<td>Pepežova Stanislava</td>
<td>24, 40, 41</td>
</tr>
<tr>
<td>Paskaš Milorad</td>
<td>29, 29</td>
</tr>
<tr>
<td>Paul John</td>
<td>19</td>
</tr>
<tr>
<td>Pavlović Vlastimir</td>
<td>24</td>
</tr>
<tr>
<td>Pencheva Evelina</td>
<td>27, 47</td>
</tr>
<tr>
<td>Perić Zoran</td>
<td>22</td>
</tr>
<tr>
<td>Pešić-Brdanin Tatjana</td>
<td>48</td>
</tr>
<tr>
<td>Petković Goran</td>
<td>22</td>
</tr>
<tr>
<td>Petković Miloš</td>
<td>40</td>
</tr>
<tr>
<td>Petrescu Teodor</td>
<td>22</td>
</tr>
<tr>
<td>Petrov D.</td>
<td>31</td>
</tr>
<tr>
<td>Petrović Branislav</td>
<td>47</td>
</tr>
<tr>
<td>Petrović Rade</td>
<td>21</td>
</tr>
<tr>
<td>Petrović S. Vladimir</td>
<td>29</td>
</tr>
<tr>
<td>Petrović V. Vladimir</td>
<td>37</td>
</tr>
<tr>
<td>Pokrajac David (Dragoljub)</td>
<td>39</td>
</tr>
<tr>
<td>Pokrajac Ivan</td>
<td>37</td>
</tr>
<tr>
<td>Poparova Tanya</td>
<td>44</td>
</tr>
<tr>
<td>Popović Dejan</td>
<td>20</td>
</tr>
<tr>
<td>Popović Milorad</td>
<td>43</td>
</tr>
<tr>
<td>Popović Oliver</td>
<td>42</td>
</tr>
<tr>
<td>Popović Ranko</td>
<td>30, 42</td>
</tr>
<tr>
<td>Popović Eduard</td>
<td>21, 35</td>
</tr>
<tr>
<td>Popovski Borislav</td>
<td>33</td>
</tr>
<tr>
<td>Porjazoski Marko</td>
<td>33</td>
</tr>
<tr>
<td>Poulkov Vladimir</td>
<td>20</td>
</tr>
<tr>
<td>Pronić-Rančić Oliveria</td>
<td>26</td>
</tr>
<tr>
<td>Prsa Miroslav</td>
<td>45</td>
</tr>
<tr>
<td>Radenković Božidar</td>
<td>30</td>
</tr>
<tr>
<td>Radić Jelena</td>
<td>48</td>
</tr>
<tr>
<td>Radivojević Ninko</td>
<td>42</td>
</tr>
<tr>
<td>Radivojević Zahrarije</td>
<td>30</td>
</tr>
<tr>
<td>Radnović Ivana</td>
<td>31</td>
</tr>
<tr>
<td>Radojičić Valentina</td>
<td>43</td>
</tr>
<tr>
<td>Radonić Vasa</td>
<td>31</td>
</tr>
<tr>
<td>Radonjić Vesna</td>
<td>27</td>
</tr>
<tr>
<td>Radulović Dragaša</td>
<td>25</td>
</tr>
<tr>
<td>Raffo Antonio</td>
<td>26</td>
</tr>
<tr>
<td>Raičević Nebojša</td>
<td>34</td>
</tr>
<tr>
<td>Rakčević Goran</td>
<td>23</td>
</tr>
<tr>
<td>Ramola Pragnesh</td>
<td>29</td>
</tr>
<tr>
<td>Rančić Milica</td>
<td>34</td>
</tr>
<tr>
<td>Rančić Milica</td>
<td>18</td>
</tr>
<tr>
<td>Rao K. R.</td>
<td>21, 21, 21, 21, 29</td>
</tr>
<tr>
<td>Reljin Branimir</td>
<td>24, 29</td>
</tr>
<tr>
<td>Reljin Irini</td>
<td>24, 29</td>
</tr>
<tr>
<td>Rizinski Marjan</td>
<td>35</td>
</tr>
<tr>
<td>Russer Johannes</td>
<td>31</td>
</tr>
<tr>
<td>Russer Peter</td>
<td>31</td>
</tr>
<tr>
<td>Sajić Slavko</td>
<td>46</td>
</tr>
<tr>
<td>Sankararaman Swaminathan</td>
<td>22</td>
</tr>
<tr>
<td>Savić Slobodan</td>
<td>34</td>
</tr>
<tr>
<td>Schreurs Dominique</td>
<td>26, 26, 30</td>
</tr>
<tr>
<td>Sekulović Nikola</td>
<td>32, 32</td>
</tr>
<tr>
<td>Serebryakova Elena</td>
<td>26</td>
</tr>
<tr>
<td>Shepov Vladimir</td>
<td>31, 31</td>
</tr>
<tr>
<td>Shuminoski Tomislav</td>
<td>43</td>
</tr>
<tr>
<td>Simić Igor</td>
<td>27, 39</td>
</tr>
<tr>
<td>Simić M. Milan</td>
<td>40</td>
</tr>
<tr>
<td>Simić N. Milan</td>
<td>22</td>
</tr>
<tr>
<td>Simić Slobodan</td>
<td>39, 48</td>
</tr>
<tr>
<td>Sladojović Srđan</td>
<td>47</td>
</tr>
<tr>
<td>Slavković Marijeta</td>
<td>29</td>
</tr>
<tr>
<td>Smiljančić Aleksandra</td>
<td>23</td>
</tr>
<tr>
<td>Name</td>
<td>Age(s)</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Smiljkovik Katerina</td>
<td>44</td>
</tr>
<tr>
<td>Softić Ferid</td>
<td>41</td>
</tr>
<tr>
<td>Soldatenko S.</td>
<td>31</td>
</tr>
<tr>
<td>Sounas Dimitrios</td>
<td>19</td>
</tr>
<tr>
<td>Sridhar Swaminathan</td>
<td>21</td>
</tr>
<tr>
<td>Stanič Mihailo</td>
<td>47</td>
</tr>
<tr>
<td>Stanković Sladan</td>
<td>43</td>
</tr>
<tr>
<td>Stanković Zoran</td>
<td>19, 38</td>
</tr>
<tr>
<td>Stefanović Mihajlo</td>
<td>32, 32</td>
</tr>
<tr>
<td>Stefanović Zoran</td>
<td>41</td>
</tr>
<tr>
<td>Stefanović Sladjan</td>
<td>41</td>
</tr>
<tr>
<td>Stoimenov Leonid</td>
<td>22, 30</td>
</tr>
<tr>
<td>Stoianović Dragan</td>
<td>23</td>
</tr>
<tr>
<td>Stoianović Mirjana</td>
<td>47</td>
</tr>
<tr>
<td>Stoianović Natalija</td>
<td>23</td>
</tr>
<tr>
<td>Stojčev Mile</td>
<td>39, 42</td>
</tr>
<tr>
<td>Stojnič Milena</td>
<td>22, 25,44</td>
</tr>
<tr>
<td>Stošić Biljana</td>
<td>31, 31</td>
</tr>
<tr>
<td>Strbac Dragoljub</td>
<td>39</td>
</tr>
<tr>
<td>Šenk Vojin</td>
<td>22</td>
</tr>
<tr>
<td>Šunjevarić Milan</td>
<td>28, 43</td>
</tr>
<tr>
<td>Švedek Tomislav</td>
<td>20, 46</td>
</tr>
<tr>
<td>Tarczynski A.</td>
<td>26</td>
</tr>
<tr>
<td>Taskovski Dimitar</td>
<td>40</td>
</tr>
<tr>
<td>Teslić Nikola</td>
<td>42</td>
</tr>
<tr>
<td>Todorović Branislav</td>
<td>46, 46</td>
</tr>
<tr>
<td>Todorović Darko</td>
<td>40, 40</td>
</tr>
<tr>
<td>Tokalić Aleksandar</td>
<td>23</td>
</tr>
<tr>
<td>Tsenov Aleksandar</td>
<td>44</td>
</tr>
<tr>
<td>Upadhayay M. D.</td>
<td>37</td>
</tr>
<tr>
<td>Urs Ashwini</td>
<td>21</td>
</tr>
<tr>
<td>Ušćumlić Bogdan</td>
<td>27</td>
</tr>
<tr>
<td>Vadarš Valeria</td>
<td>26</td>
</tr>
<tr>
<td>Vannini Giorgio</td>
<td>26</td>
</tr>
<tr>
<td>Vasić Bane</td>
<td>22</td>
</tr>
<tr>
<td>Vasković M.</td>
<td>26</td>
</tr>
<tr>
<td>Veljković Nataša</td>
<td>30</td>
</tr>
<tr>
<td>Vesković Slavko</td>
<td>42</td>
</tr>
<tr>
<td>Videnović-Mišić Mirjana</td>
<td>48</td>
</tr>
<tr>
<td>Vitezau Dragos</td>
<td>21</td>
</tr>
<tr>
<td>Stjepanović Aleksandar</td>
<td>41</td>
</tr>
<tr>
<td>Stjepanović Sladjana</td>
<td>41</td>
</tr>
<tr>
<td>Stojanović Leonid</td>
<td>22, 30</td>
</tr>
<tr>
<td>Stojanović Mirjana</td>
<td>47</td>
</tr>
<tr>
<td>Stojanović Natalija</td>
<td>24</td>
</tr>
<tr>
<td>Stojčev Mile</td>
<td>39, 42</td>
</tr>
<tr>
<td>Stojnič Milena</td>
<td>22, 25,44</td>
</tr>
<tr>
<td>Stošić Biljana</td>
<td>31, 31</td>
</tr>
<tr>
<td>Strbac Dragoljub</td>
<td>39</td>
</tr>
<tr>
<td>Šenk Vojin</td>
<td>22</td>
</tr>
<tr>
<td>Šunjevarić Milan</td>
<td>28, 43</td>
</tr>
<tr>
<td>Švedek Tomislav</td>
<td>20, 46</td>
</tr>
<tr>
<td>Tarczynski A.</td>
<td>26</td>
</tr>
<tr>
<td>Taskovski Dimitar</td>
<td>40</td>
</tr>
<tr>
<td>Teslić Nikola</td>
<td>42</td>
</tr>
<tr>
<td>Todorović Branislav</td>
<td>46, 46</td>
</tr>
<tr>
<td>Todorović Darko</td>
<td>40, 40</td>
</tr>
<tr>
<td>Tokalić Aleksandar</td>
<td>23</td>
</tr>
<tr>
<td>Tsenov Aleksandar</td>
<td>44</td>
</tr>
<tr>
<td>Upadhayay M. D.</td>
<td>37</td>
</tr>
<tr>
<td>Urs Ashwini</td>
<td>21</td>
</tr>
<tr>
<td>Ušćumlić Bogdan</td>
<td>27</td>
</tr>
<tr>
<td>Vadarš Valeria</td>
<td>26</td>
</tr>
<tr>
<td>Vannini Giorgio</td>
<td>26</td>
</tr>
<tr>
<td>Vasić Bane</td>
<td>22</td>
</tr>
<tr>
<td>Vasković M.</td>
<td>26</td>
</tr>
<tr>
<td>Veljković Nataša</td>
<td>30</td>
</tr>
<tr>
<td>Vesković Slavko</td>
<td>42</td>
</tr>
<tr>
<td>Videnović-Mišić Mirjana</td>
<td>48</td>
</tr>
<tr>
<td>Vitezau Dragos</td>
<td>21</td>
</tr>
<tr>
<td>Stjepanović Aleksandar</td>
<td>41</td>
</tr>
<tr>
<td>Stjepanović Sladjana</td>
<td>41</td>
</tr>
<tr>
<td>Stojanović Leonid</td>
<td>22, 30</td>
</tr>
<tr>
<td>Stojanović Mirjana</td>
<td>47</td>
</tr>
<tr>
<td>Stojanović Natalija</td>
<td>23</td>
</tr>
<tr>
<td>Stojčev Mile</td>
<td>39, 42</td>
</tr>
<tr>
<td>Stojnič Milena</td>
<td>22, 25,44</td>
</tr>
<tr>
<td>Stošić Biljana</td>
<td>31, 31</td>
</tr>
<tr>
<td>Strbac Dragoljub</td>
<td>39</td>
</tr>
<tr>
<td>Šenk Vojin</td>
<td>22</td>
</tr>
<tr>
<td>Šunjevarić Milan</td>
<td>28, 43</td>
</tr>
<tr>
<td>Švedek Tomislav</td>
<td>20, 46</td>
</tr>
<tr>
<td>Tarczynski A.</td>
<td>26</td>
</tr>
<tr>
<td>Taskovski Dimitar</td>
<td>40</td>
</tr>
<tr>
<td>Teslić Nikola</td>
<td>42</td>
</tr>
<tr>
<td>Todorović Branislav</td>
<td>46, 46</td>
</tr>
<tr>
<td>Todorović Darko</td>
<td>40, 40</td>
</tr>
<tr>
<td>Tokalić Aleksandar</td>
<td>23</td>
</tr>
<tr>
<td>Tsenov Aleksandar</td>
<td>44</td>
</tr>
<tr>
<td>Upadhayay M. D.</td>
<td>37</td>
</tr>
<tr>
<td>Urs Ashwini</td>
<td>21</td>
</tr>
<tr>
<td>Ušćumlić Bogdan</td>
<td>27</td>
</tr>
<tr>
<td>Vadarš Valeria</td>
<td>26</td>
</tr>
<tr>
<td>Vannini Giorgio</td>
<td>26</td>
</tr>
<tr>
<td>Vasić Bane</td>
<td>22</td>
</tr>
<tr>
<td>Vasković M.</td>
<td>26</td>
</tr>
<tr>
<td>Veljković Nataša</td>
<td>30</td>
</tr>
<tr>
<td>Vesković Slavko</td>
<td>42</td>
</tr>
<tr>
<td>Videnović-Mišić Mirjana</td>
<td>48</td>
</tr>
<tr>
<td>Vitezau Dragos</td>
<td>21</td>
</tr>
<tr>
<td>Stjepanović Aleksandar</td>
<td>41</td>
</tr>
<tr>
<td>Stjepanović Sladjana</td>
<td>41</td>
</tr>
<tr>
<td>Stojanović Leonid</td>
<td>22, 30</td>
</tr>
<tr>
<td>Stojanović Mirjana</td>
<td>47</td>
</tr>
<tr>
<td>Stojanović Natalija</td>
<td>23</td>
</tr>
<tr>
<td>Stojčev Mile</td>
<td>39, 42</td>
</tr>
<tr>
<td>Stojnič Milena</td>
<td>22, 25,44</td>
</tr>
<tr>
<td>Stošić Biljana</td>
<td>31, 31</td>
</tr>
<tr>
<td>Strbac Dragoljub</td>
<td>39</td>
</tr>
<tr>
<td>Šenk Vojin</td>
<td>22</td>
</tr>
<tr>
<td>Šunjevarić Milan</td>
<td>28, 43</td>
</tr>
<tr>
<td>Švedek Tomislav</td>
<td>20, 46</td>
</tr>
<tr>
<td>Tarczynski A.</td>
<td>26</td>
</tr>
<tr>
<td>Taskovski Dimitar</td>
<td>40</td>
</tr>
<tr>
<td>Teslić Nikola</td>
<td>42</td>
</tr>
<tr>
<td>Todorović Branislav</td>
<td>46, 46</td>
</tr>
<tr>
<td>Todorović Darko</td>
<td>40, 40</td>
</tr>
<tr>
<td>Tokalić Aleksandar</td>
<td>23</td>
</tr>
<tr>
<td>Tsenov Aleksandar</td>
<td>44</td>
</tr>
<tr>
<td>Upadhayay M. D.</td>
<td>37</td>
</tr>
<tr>
<td>Urs Ashwini</td>
<td>21</td>
</tr>
<tr>
<td>Ušćumlić Bogdan</td>
<td>27</td>
</tr>
<tr>
<td>Vadarš Valeria</td>
<td>26</td>
</tr>
<tr>
<td>Vannini Giorgio</td>
<td>26</td>
</tr>
<tr>
<td>Vasić Bane</td>
<td>22</td>
</tr>
<tr>
<td>Vasković M.</td>
<td>26</td>
</tr>
<tr>
<td>Veljković Nataša</td>
<td>30</td>
</tr>
<tr>
<td>Vesković Slavko</td>
<td>42</td>
</tr>
<tr>
<td>Videnović-Mišić Mirjana</td>
<td>48</td>
</tr>
<tr>
<td>Vitezau Dragos</td>
<td>21</td>
</tr>
<tr>
<td>Stjepanović Aleksandar</td>
<td>41</td>
</tr>
<tr>
<td>Stjepanović Sladjana</td>
<td>41</td>
</tr>
<tr>
<td>Stojanović Leonid</td>
<td>22, 30</td>
</tr>
<tr>
<td>Stojanović Mirjana</td>
<td>47</td>
</tr>
<tr>
<td>Stojanović Natalija</td>
<td>23</td>
</tr>
<tr>
<td>Stojčev Mile</td>
<td>39, 42</td>
</tr>
<tr>
<td>Stojnič Milena</td>
<td>22, 25,44</td>
</tr>
<tr>
<td>Stošić Biljana</td>
<td>31, 31</td>
</tr>
<tr>
<td>Strbac Dragoljub</td>
<td>39</td>
</tr>
<tr>
<td>Šenk Vojin</td>
<td>22</td>
</tr>
<tr>
<td>Šunjevarić Milan</td>
<td>28, 43</td>
</tr>
<tr>
<td>Švedek Tomislav</td>
<td>20, 46</td>
</tr>
<tr>
<td>Tarczynski A.</td>
<td>26</td>
</tr>
<tr>
<td>Taskovski Dimitar</td>
<td>40</td>
</tr>
<tr>
<td>Teslić Nikola</td>
<td>42</td>
</tr>
<tr>
<td>Todorović Branislav</td>
<td>46, 46</td>
</tr>
<tr>
<td>Todorović Darko</td>
<td>40, 40</td>
</tr>
<tr>
<td>Tokalić Aleksandar</td>
<td>23</td>
</tr>
<tr>
<td>Tsenov Aleksandar</td>
<td>44</td>
</tr>
<tr>
<td>Upadhayay M. D.</td>
<td>37</td>
</tr>
<tr>
<td>Urs Ashwini</td>
<td>21</td>
</tr>
<tr>
<td>Ušćumlić Bogdan</td>
<td>27</td>
</tr>
</tbody>
</table>
Notes:
<table>
<thead>
<tr>
<th>Session Name</th>
<th>Session mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electromagnetic Metamaterials</td>
<td>MTM</td>
</tr>
<tr>
<td>Computational Electromagnetics</td>
<td>CEM</td>
</tr>
<tr>
<td>Microwave Electronics</td>
<td>ME</td>
</tr>
<tr>
<td>Microwave Technique</td>
<td>MT</td>
</tr>
<tr>
<td>Signal Processing</td>
<td>SP</td>
</tr>
<tr>
<td>Image Processing</td>
<td>IP</td>
</tr>
<tr>
<td>Broadcasting and Multimedia Communications</td>
<td>BMC</td>
</tr>
<tr>
<td>Computer Systems and Internet Technologies</td>
<td>CIT</td>
</tr>
<tr>
<td>Coding and Modulation Techniques</td>
<td>CMT</td>
</tr>
<tr>
<td>Wireless Communications I</td>
<td>WC I</td>
</tr>
<tr>
<td>Wireless Communications II</td>
<td>WC II</td>
</tr>
<tr>
<td>Telecommunication Networks and Services</td>
<td>TNS</td>
</tr>
<tr>
<td>Telecommunication Systems and Technologies</td>
<td>TST</td>
</tr>
<tr>
<td>ICT in Education and Commerce (ICT)</td>
<td>ICT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Posters</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microwaves, Antennas and Propagation</td>
<td>PO1</td>
</tr>
<tr>
<td>Digital Signal Processing</td>
<td>PO2</td>
</tr>
<tr>
<td>Control Systems, Measurements and Electronic Components</td>
<td>PO3</td>
</tr>
<tr>
<td>Computer Systems and Internet Technologies</td>
<td>PO4</td>
</tr>
<tr>
<td>Broadcasting and Multimedia Communications</td>
<td>PO5</td>
</tr>
<tr>
<td>Wireless Communications</td>
<td>PO6</td>
</tr>
<tr>
<td>Modulations and Coding</td>
<td>PO7</td>
</tr>
<tr>
<td>Telecommunication Networks, Technologies and Services</td>
<td>PO8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Round Table</th>
<th>Mark</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Other Events</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEEE Executive Committee Meeting</td>
<td>IEEE</td>
</tr>
<tr>
<td>IEEE WiE Meeting</td>
<td>IEEE WiE</td>
</tr>
<tr>
<td>Serbian Cable Operators – Steering Boards Meeting</td>
<td>PUKOS</td>
</tr>
<tr>
<td>Regional Chamber of Commerce – ICT Society Meeting</td>
<td>RCC</td>
</tr>
</tbody>
</table>