

**Federation of the Scientific-Technical Unions in Bulgaria (FNTS)**  
**Union of Electronics, Electrical Engineering and Telecommunications (CEEC)**  
**Ministry of Transport, Information Technology and Communications**  
**The Communications Regulation Commission**  
**Technical University of Sofia**  
**Union of Scientists in Bulgaria**  
**Telecommunications Association (ASTEL)**  
**24-rd NATIONAL CONFERENCE**  
**WITH INTERNATIONAL PARTICIPATION**

# **TELECOM 2016**

**WE ARE CONNECTED!**



## **P R O G R A M M E**

**27 - 28 October 2016**  
*National Science and Technical Centre,*  
*108 Rakovsky St. – Sofia*

**General sponsor:**



**The conference is organized  
with contribution from:  
Technical University - Sofia,  
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## TELECOM 2016 SESSIONS TIMETABLE

<i>Date</i>	<i>Time</i>	<i>Sessions</i>
<b>Thursday 27.10.2016</b>		<b>Plenary Session 1, hall 3</b>
	<b>10.00 – 12.00</b>	<b>Conference Opening</b> Chairman: Assoc. Prof. Plamen Vachkov, PhD  Greetings  <b>Papers:</b> 1. MTITC, 2. MTel, 3. Balkantel 4. Kamen Rangelov
	<b>13.00 - 14.45</b>	<b>Plenary Session 2, hall 3</b>  Chairman: Assoc. Prof. Seferin Mirtchev, PhD  <b>Papers:</b> 5. BCCI, 6. Elena Sjoykova, 7. Kiril Konov, 7. Apostol Apostolov
	<b>15.00 – 16.00</b>	<b>Section Session 1, hall 3</b>  <b>TELECOMMUNICATIONS AND INFORMATION TECHNOLOGIES</b>  Chairman: Assoc. Prof. Kamen Rangelov, PhD  Papers: 1.1, 1.2, 1.3, 1.4
	<b>16.15 – 17.15</b>	<b>Section Session 2, hall 3</b>  <b>NGN. NETWORKS OF THE FUTURE. SOFTWARE DEFINED NETWORKS. ASPECTS OF POSTAL SERVICES</b>  Chairman: Assoc. Prof. Alexander Nenkov, PhD  Papers: 2.1, 2.2, 2.3, 2.4
	<b>17.30 - 18.30</b>	<b>Plenary Session 3, hall 3</b>  <b>“Round Table” Discussion</b> <b>5G – MOBILE COMMUNICATION OF NEXT GENERATION.</b> <b>IoT – INTERNET OF THINGS.</b> <b>THE “PRAVETS” TRADEMARK - RESURRECTION</b> Chairmen: Prof. Kamen Rangelov, PhD, Prof. Plamen Vachkov, PhD
	<b>19.00 – 20.30</b>	<b>Cocktail – Hall 2</b>

<i>Date</i>	<i>Time</i>	<i>Sessions</i>
<b>Friday 28.10.2016</b>	<b>08.30 – 09.00</b>	<p><b>Section Session 3, hall 3</b></p> <p><b>INTERNET OF THINGS AND INTERNET OF PEOPLE</b></p> <p>Chairman: Assoc. Prof. Seferin Mirtchev, PhD</p> <p>Papers: 3.1, 3.2</p>
	<b>09.00 – 09.30</b>	<p><b>Section Session 4, hall 3</b></p> <p><b>WIRELESS COMMUNICATIONS. SHARING OF RADIO SPECTRUM. DIGITAL SWITCHOVER.</b></p> <p>Chairman: Prof. Luben Tonev, PhD</p> <p>Papers: 4.1, 4.2</p>
	<b>09.45 – 10.45</b>	<p><b>Section Session 5, hall 3</b></p> <p><b>TELECOMMUNICATION NETWORKS AND TELETRAFFIC – POLITICS. PLANNING AND MANAGEMENT</b></p> <p>Chairman: Assoc. Prof. Dimitar Arnaudov, PhD</p> <p>Papers: 5.1, 5.2, 5.3, 5.4</p>
	<b>11.00 - 11.45</b>	<p><b>Section Session 6, hall 3</b></p> <p><b>COMMUNICATION CIRCUITS, SIGNALS AND SYSTEMS</b></p> <p>Chairman: Prof. Boris Yovchev, PhD</p> <p>Papers: 6.1, 6.2, 6.3</p>
	<b>12.00 - 12.30</b>	<p><b>Section Session 7, hall 3</b></p> <p><b>EDUCATION IN THE FIELD OF TELECOMMUNICATION</b></p> <p>Chairman: Assoc. Prof. Krastu Mirski, PhD</p> <p>Papers: 7.1, 7.2</p>

<i>Date</i>	<i>Time</i>	<i>Sessions</i>
<b>Friday 28.10.2016</b>	<b>12.30 - 12.40</b>	<p align="center"><b>Section Session 8, hall 3</b></p> <p align="center"><b>OVERVIEW PAPERS (IN SUPPORT OF PRACTICAL APPLICATIONS)</b></p> <p align="center">Chairman: Assoc. Prof. Kamen Rangelov, PhD</p> <p align="center">Papers: 8.1</p>
	<b>12.45</b>	<p align="center"><b>Closing of the Conference, hall 3</b></p> <p align="center"><b>Assoc. Prof. Plamen Vachkov, PhD</b></p>

## CONFERENCE PROGRAMME

**THURSDAY,  
15.10.2016 г.**

**NATIONAL SCIENCE AND TECHNICAL CENTRE**

09.00 – 12.00

**Registration**

**10.00 – 12.00**

**Plenary Session 1, hall 3**

**Conference Opening, Greetings**

Chairman: Assoc. Prof. Plamen Vachkov, PhD

1. 26TH CONGRESS OF THE UNIVERSAL POSTAL UNION - RECENT DEVELOPMENTS IN THE POSTAL SECTOR  
Iliana Karafezieva - Expert "Development of postal services", Directorate of "Communications " MTITC
2. 3G HIGH SPEED PACKET ACCESS EVOLUTION: DUAL BAND - DUAL CARRIER  
Mihail Mihailov – Mobiltel EAD
3. INDUSTRIAL STRATEGY BASED ON THE FOURTH DIGITAL REVOLUTION WITH THE PRIORITY NO INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)  
Nikola Dourtchev – Balkantel
4. NOTES ON TELECOMMUNICATIONS - 2016  
Kamen Rangelov – CEEC

12.00 – 13.00

**Lunch Break**

**13.00 – 14.45**

**Plenary Session 2, hall 3**

Chairman: Assoc. Prof. Seferin Mirtchev, PhD

5. ELECTRONIC RECORDS OF BULGARIAN CHAMBER OF COMMERCE AND INDUSTRY  
Ivanka Ivanova - Head of Computer and Information Systems, BCCI
6. EDUCATION IN THE SMART CITY  
Elena Shoikova, R. Nikolov, M. Krumova E. Kovacheva, V. Dimitrov, A. Shikalanov - UNIBIT
7. STATUS AND TRENDS IN THE DIGITAL BROADCASTING  
Kiril Konov – CEEC
8. STAGES IN THE DEVELOPMENT AND THE PRODUCTION OF THE TELEVISION RECEIVERS IN BULGARIA  
Apostol Apostolov – CEEC

**15.00 – 16.00**

**Section Session 1, hall 3**

**TELECOMMUNICATIONS AND INFORMATION TECHNOLOGIES**

Chairman: Assoc. Prof. Kamen Rangelov, PhD

- 1.1. SCP-RPSC - THE KEY TECHNOLOGY IN THE NEXT GENERATION STEERABLE LINES FOR SATELLITE COMMUNICATIONS  
Veselin Demirev – TU-Sofia

- 1.2. CHALLENGES FOR PROVIDING SECURITY IN INTERNET OF THINGS  
Tsvetomir P. Gyuretsov, Plamen Z. Zahariev, Georgi V. Hristov – University of Ruse “Angel Kanchev”
- 1.3. ON THE POSSIBILITY OF IMPROVING THE CHARACTERISTICS OF PROTOCOLS FOR TELEMETRY DATA TRANSMISSION FROM UNMANNED AERIAL VEHICLE  
Svilen Borisov, Jordan Raychev, Georgi Hristov, Plamen Zahariev–University of Ruse “Angel Kanchev”
- 1.4. COMPARATIVE ANALYSIS OF TECHNOLOGIES FOR 3D OBJECTS REPLICATION  
Ivanka D. Tsvetkova, Plamen Z. Zahariev–University of Ruse “Angel Kanchev”
- 15.15 – 15.30            **Break**
- 16.00 – 16.15            Section Session 2, hall 3**  
**NGN. NETWORKS OF THE FUTURE. SOFTWARE DEFINED NETWORKS. ASPECTS OF POSTAL SERVICES**  
Chairman: Assoc. Prof. Alexander Nenkov, PhD
- 2.1. IMPROVING THE VOICE TRAFFIC IN WLAN NETWORK  
Vladimir Dimitrov – Technical University of Sofia
- 2.2. SERVICE MODELS OF CLOUD SOFTWARE-DEFINED RADIO  
Ivan Penchev Ivanov – Directorate, Defence Institute „Prof. Tsvetan Lazarov“
- 2.3. PLATFORM FOR EVALUATION AND ANALYSIS OF CONTROL PLANE PERFORMANCE IN SOFTWARE-DEFINED NETWORKS  
Diyana Kyuchukova, Georgi Hristov – University of Ruse “Angel Kanchev”
- 2.4. PAYMENT OF PENSIONS BY ”BULGARIAN POSTS” PLC - MONOPOLY OR OBLIGATION ?  
Zdravko Mihaylov  
Headquarters of ”Bulgarian Posts” PLC
- 17.20 – 17.30            **Break**
- 17.30 – 18.30            Plenary Session 3, hall 3**  
**“Round Table” Discussion**  
**5G – MOBILE COMMUNICATION OF NEXT GENERATION**  
**IoT – INTERNET OF THINGS,**  
**THE “PRAVETS” TRADEMARK - RESURRECTION**  
Chairmen: Assoc. Prof. Kamen Rangelov, PhD, Prof. Ivan Kurtev, PhD
- 17.00 – 20.00            Cocktail – Hall 2**
- Friday,**  
**28.10.2016                NATIONAL SCIENCE AND TECHNICAL CENTRE**
- 08.30 – 09.30            Section Session 3, hall 3**  
**INTERNET OF THINGS AND INTERNET OF PEOPLE**  
Chairman: Assoc. Prof. Seferin Mirtchev, PhD
- 3.1. CHALLENGES FACED BY THE AUTONOMOUS MANAGEMENT IN FUTURE INTERNET  
Anastas Nikolov – Technical University Of Sofia
- 3.2. TELECOMMUNICATION SYSTEM FOR GREEN ECONOMY – A SURVEY  
Zdravka Tchobanova, Galia Marinova – Technical University-Sofia



**09.00 – 09.30**

**Section Session 4, hall 3**

**WIRELESS COMMUNICATIONS. SHARING OF RADIO SPECTRUM.  
DIGITAL SWITCHOVER**

Chairman: Prof. Luben Tonev, PhD

4.1. MEASUREMENT OF THE REFERENCE SIGNAL IN 4G LTE NETWORK IN SOFIA  
Philip Atanasov, Zhivko Kissovski, Sofia University

4.2. COMPARATIVE ANALYSIS OF TECHNOLOGIES TO CONSTRUCT VEHICLES  
AD-HOC NETWORKS

Tsvetan Marinov Marinov – Technical University of Sofia

**09.45 – 10.45**

**Section Session 5, hall 3**

**TELECOMMUNICATION NETWORKS AND TELETRAFFIC – POLITICS.  
PLANNING AND MANAGEMENT**

Chairman: Assoc. Prof. Dimitar Arnaudov, PhD

5.1. BEYOND ALGEBRAIC CONNECTIVITY OF GRAPHS - EVALUATION OF  
TOPOLOGY, BASED ON SPECTRAL CLUSTERING

Mircho Jordanov Mirchev – Technical University of Sofia

5.2. QUALITY OF SERVICE EVALUATION IN IP NETWORKS WITH PEAKED ARRIVAL  
AND DEPARTURE PROCESSES

Seferin T. Mirtchev – Technical University of Sofia

5.3. TRAFFIC PERFORMANCE OF THE PRIORITY SERVICES OF THE IP TRAFFIC

Dimitar Atamian, Seferin Mirtchev, Rossitza Goleva – Technical University of Sofia

5.4. CLOUD SERVICES- TOOLS FOR MODELING AND SIMULATION

Ivan Ivanov Nedyalkov, Georgi Petrov Georgiev – University of Telecommunication and Post

**11.45 – 11.45**

**Section Session 6, hall 3**

**COMMUNICATION CIRCUITS, SIGNALS AND SYSTEMS**

Chairman: Prof. Boris Yovchev, PhD

6.1. APPLICATION OF NEW MATHEMATICAL FUNCTIONS FOR DIGITAL LINEAR-  
PHASE FILTERS DESIGN

Peter Stoyanov Apostolov, Alexey Kostadinov Stefanov – South-West University, „Neofit  
Rilski“, Ivan Michailov

6.2. DISPLACEMENT CURRENT AND AMPERE'S LAW

Ivan Stefanov Bozev, Radoslav Borislavov Borisov – Technical University of Sofia

6.3. MODULE FOR CONTACTLESS MEASURING OF SURFACE TEMPERATURE OF  
DISTRIBUTED OBJECTS IN TERMAL ZONE

Kalin Lachezarov Dimitrov, Stanyo Veselinov Kolev – Technical University of Sofia

**12.00 – 12.30**

**Section Session 7, hall 3**

**EDUCATION IN THE FIELD OF TELECOMMUNICATION**

Chairman: Assoc. Prof. Krastu Mirski, PhD

7.1. APPLICATION OF GNURADIO IN DIGITAL MODULATIONS CURRICULUM

Georgi Petrov – NBU

7.2. IMPLEMENTATION OF ICT IN TEACHING OF POWER SUPPLY DEVICES

Nikolay Hinov, Tsveti Hranov, Dimitar Arnaudov Technical University – Sofia

**12.45**

**CLOSING OF THE CONFERENCE, hall 3.**

# Information

## for the participants and guests of Telecom 2016

Until 27 October 2016 detailed information on issues of the Conference can be obtained at the National House of Science and Technology in Sofia, 108 Rakovski St., V Floor, Room 506 or by phone: 02 987-97-67 and 0887508262.

Email of the conference: [telecom.ceec@gmail.com](mailto:telecom.ceec@gmail.com)

Website of the conference: <http://ceec.fnts.bg/telecom>

Registration fee: Participants with/without a paper - Euro 50, Students - Euro 25. The fee should be preferably paid before October 14, 2013 through a bank transfer on the account of:

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CEEC, TELECOM 2016, participant's name

Participants are kindly requested to send a Payment Order copy with details of payment to the Organizing Committee, or present it upon registration.

The Registration Fee can be paid in cash at the Office of CEEC: 108, Rakovsky Str., Sofia 1000.

By way of exception the Registration Fee may be paid upon arrival at the Conference site in cash (Euro 55).

The Registration Fee includes admission to all Conference events, a set of Conference materials (program, abstracts, CD with papers etc.) and cocktail.

The Organizing Committee will award a young author (up to 35 years old) for the best individually presented paper with substantial scientific research contribution.

