

THE 10TH INTERNATIONAL WORKSHOP
OF
ELECTROMAGNETIC COMPATIBILITY

CEM 2016

**Craiova, ROMANIA
September, 14 – 16, 2016**

with support of:



Ministry of National Education and Scientific Research

Organized by:



**National Institute for Research and Development in
Electrical Engineering ICPE-CA, Bucharest, Romania**

in collaboration with



**University of Craiova
Electrical Engineering Faculty**



Romanian EMC Association



Romanian Academy of Technical Sciences

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Wednesday

September 14, 2016

- 11:00 – 14:00** Accommodation. Preliminary information
- 14:00 – 16:00** Registration of participants, Posters display
- 16:00 – 16:30** Opening Ceremony – Blue Room
- 16:30 – 18:00** Plenary Session, INVITED LESSONS
- 18:00 – 19:00** Mini Exhibition
- 19:30 – 21:00** Cocktail

Thursday

September 15, 2016

- 09:00 – 11:00** Oral Sessions
- 11:00 – 11:30** Coffee/Tea Break
- 11:30 – 13:30** Oral Sessions
- 13:30 – 15:00** Poster Debate
- 15:00 – 22:00** Social program, Banquet

Friday

September 16, 2016

- 09:00 – 10:30** Plenary Session, INVITED LESSONS
- 10:30 – 11:00** Coffee/Tea Break
- 11:00 – 12:30** Round table
- 12:30 – 13:00** Closing remarks, awarding "The best poster" and "The best communication at oral presentation session" for a junior participant
- 13:00 – 14:00** Lunch
- 14:00 - 17:00** Departure

Wednesday, September 14, 2016

16:00 – 16:30

Opening Ceremony, Blue Room

Plenary Session

16:30 – 18:00

INVITED PAPERS, Blue Room

PRESIDENTS: Marcel OPRIS and Iosif LINGVAY

16:30 – 17:00

POWER QUALITY VERSUS ELECTROMAGNETIC COMPATIBILITY BETWEEN 2 AND 150 KHZ

Petre - Marian NICOLAE

University of Craiova, Faculty of Electrical Engineering, Romania

17:00 – 17:30

IMPROVING POWER QUALITY IN DC-TRACTION SUBSTATIONS THROUGH ACTIVE FILTERING

Mihaela POPESCU, Alexandru BITOLEANU, Vlad SURU

University of Craiova, Romania

17:30 – 18:00

STUDIES FROM ROMANIA ABOUT THE INTERACTIONS BETWEEN THE ELECTRIC FIELDS WITH EXTREMELY LOW FREQUENCY (ELF) AND THE NATURAL BIOCHEMICAL PROCESS

Iosif LINGVAY

National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

18:00 – 19:00 Mini Exhibition

19:30 – 21:00 Cocktail

Thursday, September 15, 2016

Oral Session

9:00 – 11:00 **Conference Room**

PRESIDENTS: Mihaela POPESCU and Liviu COȘEREANU

9:00 – 9:15

**ON THE IMMUNITY OF DATA ACQUISITION SYSTEMS USED IN
ENERGETICS**

Livia-Andreea DINA, Ileana-Diana NICOLAE, Petre-Marian NICOLAE, Dinut-Lucian POPA, Dorina-Mioara PURCARU

Dept. of Electr., Energetic and Aero-Spatial Engineering, Faculty of Electrical Engineering,
University of Craiova, Romania

9:15 – 9:30

**ENERGETIC ANALYSIS OF DRYING PROCESS OF CURRENT
TRANSFORMER FROM 110 kV CIUNGET STATION**

D. R. C. DOBOȘERIU¹, A. BITOLEANU², Mihaela POPESCU³

¹S.S.H. Hidroserv, R. Valcea, Romania

²University of Craiova, Faculty of Electrical Engineering, Romania

³University of Craiova, Faculty of Electrical Engineering, Romania

9:30 – 9:45

**ELECTROMAGNETIC SHIELDING SYSTEM FOR INFORMATION AND
COMMUNICATION EQUIPMENT**

Dan STOICA, Liviu COȘEREANU, Mihai ENACHE, Adina BOTEANU, Albert PLOȘNIȚĂ
Military Equipments and Technologies Research Agency, Bucharest, Romania

9:45 – 10:00

**HUMAN EXPOSURE TO ELECTROMAGNETIC FIELD ACTION IN THE
FREQUENCY RANGE 75MHz-3GHz**

Gheorghe-Virgil LUCANU, Sorin LAZĂR, Petre VOICU, Liviu COȘEREANU

The Military Equipment and Technologies Research Agency, Romania

10:00 – 10:15

**ELECTROMAGNETIC COMPATIBILITY ASSESSMENT OF SAFETY
EQUIPMENT FOR LIFTING EQUIPMENT**

Ilie MIHALCEA, Ion PATRU, Paul NICOLEANU, Violeta VOICU
INCD ICMET Craiova, Romania

10:15 – 10:30

**SOME CONSIDERATIONS CONCERNING RADIATED EMISSIONS
PRODUCED BY A BOARD DISPLAY**

Petre-Marian NICOLAE¹, Relu-Adrian AIPU², Ileana-Diana NICOLAE³

¹Dept. of Electrical Eng, Energetic and Aeronautics, University of Craiova, Romania

²Continental SA, Timisoara, Romania

³Dept. of Computer Science and IT, University of Craiova, Romania

10:30 – 10:45

**STUDY ON THE DISTURBANCES GENERATED BY LED TECHNOLOGY
BASED LUMINAIRES**

Ion PĂTRU, Ilie MIHALCEA, Paul NICOLEANU, Viorica VOICU
INCD ICMET Craiova, Romania

10:45 – 11:00

CURRENT MATTERS OF STANDARDIZATION IN EMC

Dan Cristian RUCINSCHI¹, Sorin COATU¹, Florin NEACȘU²

¹University POLITEHNICA of Bucharest, TICEM, Romania

² National standardization body - ASRO, Romania

11:00 – 11:30 Coffee & Tea

Oral Session

11:30 – 13:30

Conference Room

PRESIDENTS: Gilbert DECAT and Alexandru BITOLEANU

11:30 – 11:45

AN ENERGETIC APPROACH TO INTERFERENCE OF THE SIGNALS

Alexandru SOTIR , Vasile DOBREF , Petrică POPOV

Naval Academy "Mircea cel Bătrân", Constanța, Romania

11:45 – 12:00

TECHNICAL ASPECTS REGARDING ELECTROMAGNETIC COMPATIBILITY COMPLIANCE OF THE ELECTRIC AND ELECTRONIC INTEGRATED SYSTEMS

Dan STOICA, Liviu COȘEREANU, Mihai ENACHE, Albert PLOȘNIȚĂ, Petru MAZĂRE
Military Equipments and Technologies Research Agency, Bucharest, Romania

12:00 – 12:15

ANALYSIS OF THE DEGREE OF ATTENUATION OF ELECTROMAGNETIC SHIELDING MATERIALS IN THE FREQUENCY RANGE OF UP TO 1 GHz

Viorica VOICU¹, Ion PĂTRU¹, Petre-Marian NICOLAE², Paul NICOLEANU¹, Andreea IACOB¹

¹ INCD ICMET Craiova, Romania

²University of Craiova, Romania

12:15 – 12:30

ASPECTS OF THE BEHAVIOUR OF CERTAIN ELECTRONIC EQUIPMENT SUBJECTED TO ELECTROSTATIC DISCHARGES

Mircea-Emilian ARDELEANU¹, Paul NICOLEANU²

¹University of Craiova, Romania

²INCD ICMET Craiova, Romania

12:30 – 12:45

RESONANT POWER SUPPLY FOR HELMHOLTZ COIL SYSTEM FOR THE CALIBRATION OF MAGNETIC FIELD SENSORS TO FREQUENCIES UP TO 10 kHz

Andrei MARINESCU^{1,2}, Ionel DUMBRAVĂ¹, Ion PĂTRU¹, Aurelia SCORNEA¹

¹INCD ICMET Craiova, Romania

²ASTR Filiala Craiova

12:45 – 13:00

EMISSION SECURITY - ASPECT OF ELECTROMAGNETIC COMPATIBILITY AS SUPPORT FOR INFORMATION SECURITY

Mircea POPESCU, Răzvan BĂRTUȘICĂ, Alexandru BOITAN

The Special Telecommunications Service, Bucharest, Romania

13:00 – 13:30

Info day LABELMAG – LABORATORY FOR ELECTROMAGNETIC STUDY OF INNOVATIVE MATERIALS

Cristian ANDRIESEI

ETTI, "Gheorghe Asachi" Technical University, Iași, Romania

AT&C Technology SRL, Iași, Romania

Poster Session

13:30 – 15:00

PRESIDENTS: Gheorghe SAMOILESCU, Georgeta ALECU

ASSESSMENT OF ELECTRICAL RESISTIVITY TO ESD FABRICS USING ABSORPTION-RESORPTION CURRENTS METHOD

Costela Beatrice GHIȚĂ¹, Elena HELEREA¹, Laurențiu Marius DUMITRAN², Gabriela TELIPAN³

¹Transilvania University, Brașov, Romania

²Politehnica University, București, Romania

³National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

COMPARISONS AMONG P-CHANNEL, N-CHANNEL AND MIXED N/P-CHANNEL OTFT

Cristian RAVARIU¹, Georgeta ALECU²

¹University POLITEHNICA of Bucharest, Romania

²National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

EXPERIMENTAL RESEARCH ON METHANOGENS STIMULATION IN ELECTRIC FIELDS OF EXTREMELY LOW FREQUENCIES

Carmen MATEESCU, Alina Ruxandra CARAMITU

National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

VALIDATED METHODS AND LATEST RESEARCH IN ELECTROPHYSICAL ACTIONS ON THE WINERY PRODUCTS

Carmen MATEESCU

National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

PREPARATION OF AMORPHOUS MAGNETIC MICROWIRES

Serghei A. BARANOV¹, Olga V. YALTYCHENKO¹, Evghenii Yu. KANAROVSKII¹, Mirela Maria CODESCU²

¹Institute of Applied Physics, Academy of Sciences of Moldova, Khisinev, Moldova

²National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

INFLUENCE OF THE ELECTROMAGNETIC FIELD ON THE PHYSIOLOGY OF ASPERGILLUS NIGER CELLS

Elena RADU^{1,2}, Carmen CHIFIRIUC^{2,3}, Crina SAVIUC (KAMERZAN)³, Andreea VOINA¹

¹National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

²Faculty of Biology, University of Bucharest, Romania

³Research Institute of the University of Bucharest - ICUB, Romania

CORROSION PROPERTIES OF TITANIUM – HYDROXYAPATITE NANOCOMPOSITES IN SIMULATED BODY FLUID AND ARTIFICIAL SALIVA ENVIRONMENTS

Dorinel TĂLPEANU¹, Anca COJOCARU², George Costin LAZĂR², Raluca Ioana ZAMFIR (ANDRONIC)², Christu ȚĂRDEI¹, Delia PĂTROI¹

¹National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

²Politehnica University of Bucharest, Romania

CONSIDERATIONS ON DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 26 FEBRUARY 2014 ON THE HARMONIZATION OF THE LAWS OF THE MEMBER STATES RELATING TO ELECTROMAGNETIC COMPATIBILITY

Georgeta ALECU, Andreea VOINA

National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

ELECTROMAGNETIC SHIELDING COMPOSITE MICROWIRES

I. BĂLAN, C. MORARI, A.E. PĂTROI

National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

NEGATIVE PERMEABILITY IN MICROWAVE FREQUENCIES OF COMPOSITE MICROWIRES

S. A. BARANOV¹, O. V. YALTYCHENKO¹, E. Yu. KANAROVSKII¹, M. M. CODESCU²

¹Institute of Applied Physics, Academy of Sciences of Moldova, Khisinev, Moldova

²National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

15:00 – 22:00 Social program, Banquet

Friday, September 16, 2016

Plenary Session

9:00 – 10:30 ***INVITED PAPERS, Conference Room***

PRESIDENTS: Frank LEFERINK and Petre - Marian NICOLAE

9:00 – 9:30

LED LAMPS: RELIABILITY – EFFICIENCY – EMC

Andrei MARINESCU^{1,2}, Georgeta ALECU³, Daniel BENE⁴, Ionuț R. ȘCHIOPU⁵

¹INCD ICMET Craiova, Romania

²ASTR Filiala Craiova, Romania

³National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

⁴BKD ELECTRONIC SA, Petrosani, Romania

⁵CONTINENTAL – Corporation Sibiu, Romania

9:30 – 10:00

INCONGRUITIES OCCURRING IN THE THEORETICAL MODELS VS. EXPERIMENT WHICH IMPLIES EQUATIONS OF ELECTROMAGNETIC FIELD PROPAGATION

Mihai BĂDIC, Cristian MORARI

National Institute for Research and Development in Electrical Engineering ICPE-CA, Bucharest, Romania

10:00 – 10:30

DISRUPTIVE ELECTROMAGNETIC INTERFERENCES OF NAVAL ELECTRONIC SYSTEM

Gheorghe SAMOILESCU

Naval Academy “Mircea cel Batrân”, Constanța, Romania

10:30 – 11:00 Coffee & Tea

11:00 – 12:30 Round table

INTERFERED TECHNOLOGY: A RADIANT FUTURE

Frank LEFERINK

THALES, Hengelo, The Netherlands and University of Twente, Enschede, The Netherlands

Moderators: Andrei MARINESCU and Mihai BĂDIC

12:30 – 13:00 *Closing remarks*

Award handing: “The best poster” and “The best communication at oral presentation session” for a junior participant

Awarding Committee:

Gen.Bg.Eng. Marcel OPRİŞ

Ph.D. Gilbert DECAT

Colonel Ph.D. Liviu COŞEREANU

Workshop closing Ceremony

13:00 – 14:00 Lunch

14:00 - 17:00 Departure