

EMCoS

Users' Meeting



2018

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Sheraton Carlton Hotel Nuremberg

25th May 2018



EMCoS Users' Meeting 2018

List of Session Attendees

EMCoS LTD.

Georgia

Roman Jobava
Anna Gheonjian
Ilona Danelyan
Irina Oganezova
Alexander Demurov
Diana Eremyan
David Karkashadze
Faik Bogdanov

DAIMLER AG

Germany

Martin Aidam
Lamyae Khibabi

BMW AG

Germany

Johannes Hippeli
Sergey Kochetov
Jean-Baptiste Greuet

RENAULT S.A.S

France

Fatou Diouf

EMC-PLUS

USA

Bruce Archambeault

JSOL

CORPORATION

Japan

Takahiko Miyachi
Toshihiro Hayashi
Narufumi Tsuboi
Akinori Shiga

AUDI AG

Germany

Michael Kühn
Marcel Messer

ANALOG DEVICES

Germany, Ireland

Thorsten Weyl
Claire Leveugle

WÜRTH ELEKTRONIK GMBH

Germany

Simon Mark

TBILISI STATE UNIVERSITY

Georgia

Revaz Zaridze

EMCoS GMBH

Germany

Snizhana Palamaryuk

AKKA GERMANY GMBH

Germany

Mahmoud Alhenawy

CSA GROUP BAYERN GMBH

Germany

Pascal Hervé

MOTOROLA SOLUTIONS

USA

Goga Bit-Babik

AIRBUS DEFENCE AND SPACE

Germany

Markus Rothenhäusler
Markus Schlick

HUWIN

South Korea

Charlie (Seung-il)

THAYER SCHOOL OF ENGINEERING AT DARTMOUTH USA

Fridon Shubitidze
Irma Shamatava

EURO EMC SERVICE (EES) DR. HANSEN CONSULTING

Switzerland

Diethard Hansen

PIDSTRYHACH INSTITUTE FOR APPLIED PROBLEMS OF MECHANICS AND MATHEMATICS

Ukraine

Mykola Voitovich
Mykhaylo Andriychuk

SHANGHAI HOLLYWELL ELECTRONIC SYSTEM CO.,LTD

China

Weizhong Fang

GUESTS

Nelly Zaridze
Nino Zaridze
Steven H. Hirth
Reno Zaridze
Marco Zaridze
Hannah Aidam

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Roman Jobava
CEO, EMCoS Ltd.
Georgia

WELCOME



Technical Program

10:35-11:05	PIDSTRYHACH INSTITUTE FOR APPLIED PROBLEMS OF MECHANICS AND MATHEMATICS, NASU	<u>M. Voitovich</u> , <u>M. Andriychuk</u>	On MAS History: Memories of Non-side Observers
11:05-11:50	TBILISI STATE UNIVERSITY	R. Zaridze	MAS: Physical Background and Overview of Application Areas
12:15-12:40	EMCoS LTD.¹, TBILISI STATE UNIVERSITY², TECHNICAL UNIVERSITY OF GEORGIA³	<u>D. Karkashadze</u> ^{1,2} , F. Bogdanov ^{1,3} , R. Zaridze ²	Application of MAS to Nano-structure Modeling
12:40-13:00	EMCoS LTD.¹, TBILISI STATE UNIVERSITY², TECHNICAL UNIVERSITY OF GEORGIA³	<u>F. Bogdanov</u> ^{1,3} , <u>D. Karkashadze</u> ^{1,2} , R. Zaridze ²	Application of MAS to Modeling the Chiral and Biisotropic Objects
14:00-14:30	THAYER SCHOOL OF ENGINEERING AT DARTMOUTH	F. Shubitidze	Method of Auxiliary Sources in UXO Problems
14:30-15:00	BMW AG	J. Hippeli	EMC Simulation Process for Complex Automotive Systems
15:00-15:30	VOLKSWAGEN AG¹, EMCOS LTD.², TBILISI STATE UNIVERSITY³	O. Sassi ¹ , <u>A. Gheonjian</u> ^{2,3} , B.Khvitia ^{2,3} , D. Eremyan ^{2,3}	Modeling and Analysis of the CISPR 25 Radiated Emission Measurement Setup
16:00-16:30	EMCOS LTD.¹, TBILISI STATE UNIVERSITY², RENAULT S.A.³	<u>A. Demurov</u> ^{1,2} , A. Gheonjian ^{1,2} , G. Gabriadze ^{1,2} , I. Oganezova ^{1,2} , Z. Kut Chadze ^{1,2} , X. Bunlon ³ , F. Ajebbar ³	3D PEEC Solver and Applications
16:30-17:00	MANDO¹, HUWIN²	J. Lee ¹ , K. Nam ² , <u>S. Jeung</u> ²	Modeling of Closed-loop Bulk Current Injection (BCI) Method for Motor Drive System
17:00-17:30	EES DR. HANSEN CONSULTING	D. Hansen	Challenges in Special, Electrically Small, HF Vehicular Antennas - Simulation and Experimental Validation. A Joint R&D Project Progress Interim Report
17:30-18:00	EMS-PLUS¹ MISSOURI UNIVERSITY OF S&T²	<u>B. Archambeault</u> ¹ , J. Drewniak ^{1,2}	Signal Integrity and Channel Analysis for Gigabit/GHz Signals

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Mykola Voitovich,

Mykhaylo Andriychuk

PIDSTRYHACH INSTITUTE FOR
APPLIED PROBLEMS OF
MECHANICS AND MATHEMATICS,
NASU
Ukraine

ON MAS HISTORY: MEMORIES
OF NON-SIDE OBSERVERS

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Revaz Zaridze

TBILISI STATE UNIVERSITY

Georgia

MAS:

PHYSICAL BACKGROUND AND
OVERVIEW OF APPLICATION AREAS

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David Karkashadze^{1,2,}

Faik Bogdanov^{1,3,}

Revaz Zaridze²

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TBILISI STATE UNIVERSITY²

TECHNICAL UNIVERSITY OF GEORGIA³

Georgia

APPLICATION OF MAS TO
NANO-STRUCTURE MODELING

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Faik Bogdanov^{1,3},

David Karkashadze^{1,2},

Revaz Zaridze²

EMCoS LTD.¹

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TECHNICAL UNIVERSITY OF GEORGIA³

Georgia

APPLICATION OF MAS TO
MODELING THE CHIRAL AND
BIISOTROPIC OBJECTS

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Fridon Shubitidze

THAYER SCHOOL OF ENGINEERING
AT DARTMOUTH
USA

METHOD OF AUXILIARY SOURCES
IN UXO PROBLEMS



Johannes Hippeli
BMW AG
Germany

EMC SIMULATION PROCESS FOR COMPLEX AUTOMOTIVE SYSTEMS

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Oussama Sassi¹,
Anna Gheonjian^{2,3},
Badri Khvitia^{2,3},
Diana Eremyan^{2,3}

VOLKSWAGEN AG¹, Germany

EMCoS LTD.², Georgia,

TBILISI STATE UNIVERSITY³, Georgia

**MODELING AND ANALYSIS OF THE
CISPR 25 RADIATED EMISSION
MEASUREMENT SETUP**

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Alexander Demurov^{1,2},

A. Gheonjian^{1,2}, G. Gabriadze^{1,2},

I. Oganezova^{1,2}, Z. Kut Chadze^{1,2},

X. Bunlon³, F. Ajebbar³

EMCoS LTD.¹, Georgia

TBILISI STATE UNIVERSITY², Georgia

RENAULT S.A.S³, France

3D PEEC SOLVER & APPLICATIONS



J. Lee¹

Kihoon Nam²

Charlie (Seung-il) Jeung²

MANDO¹, HUWIN²

South Korea

MODELING OF CLOSED-LOOP BULK CURRENT INJECTION (BCI) METHOD FOR MOTOR DRIVE SYSTEM



Diethard Hansen

EES DR. HANSEN CONSULTING
Switzerland

CHALLENGES IN SPECIAL,
ELECTRICALLY SMALL,
HF VEHICULAR ANTENNAS -
SIMULATION & EXPERIMENTAL
VALIDATION. A JOINT R&D PROJECT
PROGRESS INTERIM REPORT

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Bruce Archambeault¹

James Drewniak^{1,2}

EMS-PLUS¹

MISSOURI UNIVERSITY OF S&T²

USA

**SIGNAL INTEGRITY AND CHANNEL
ANALYSIS FOR GIGABIT/GHZ
SIGNALS**

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Social Events

Congratulations to our lottery winners!



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**Celebrating
Professor
Revaz Zaridze
80th Anniversary!**



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