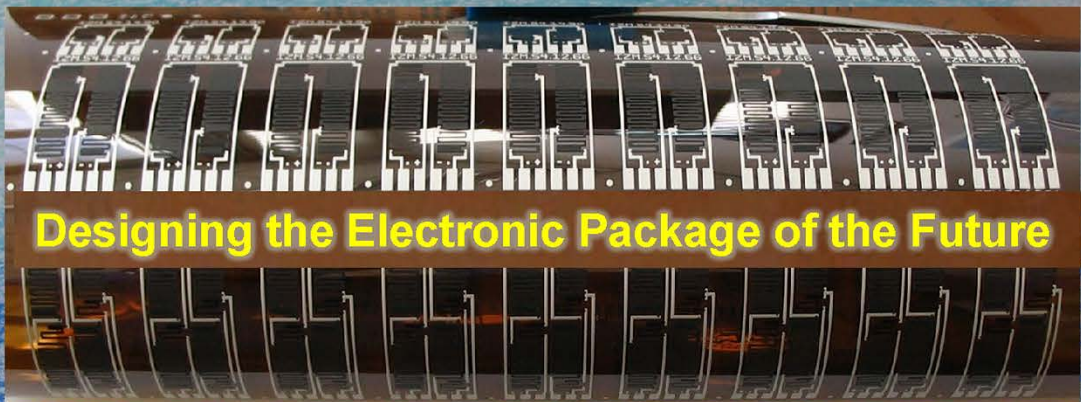


**IEEE 25th International Symposium for
Design and Technology in Electronics
Packaging**

23rd – 26th October 2019, Cluj-Napoca, Romania

**25 years
Anniversary**



**The Autumn Convention of
the Electronics Packaging Community**

Programme Brochure

SIITME 2019

SIITME 2019 - Programme Brochure

Welcome to SIITME 2019	1
Program at a Glance.....	11
Committees	13
Reviewers	14
SIITME History	15
Keynote Speakers	16
Invited guests	20
SIITME 2019 Joint Events	23
Oral & Industrial Sessions.....	27
Poster Sessions	31
Industry	41
Research	51
General Information	55

EDITORS: Paul Svasta, Detlef Bonfert, Delia Lepădatu
DTP: Bogdan Anton, Bogdan Mihăilescu
Fraunhofer Research Institution for Microsystems and Solid State
Technologies, EMFT, Munich - partner of SIITME 2019
Publisher:

SIITME 2019

The autumn convention of electronics packaging community

International Symposium for Design and Technology in Electronics Packaging Conference & Exhibition

www.siidme.ro

25th Edition, 23-26 October 2019

Organized by:



Electronic Packaging Education Training
and Research University Network

Technical University of Cluj Napoca
Faculty of Electronics, Telecommunications and
Information Technology
<https://www.utcluj.ro>

Continental Automotive Romania
MIELE Tehnica Romania

University Politehnica of Bucharest
<http://www.upb.ro>
Faculty of Electronics, Telecommunications and
Information Technology
<http://www.electronica.pub.ro>
Center for Technological Electronics and
Interconnection Techniques
<http://www.cetti.ro>

Association for Promoting Electronics Technology,
APTE
<http://www.apte.org.ro>

and supported by:

EPETRUN (Electronics Packaging Education
Training and Research University Network)

SIITME at the 25th anniversary

Dear participants to SIITME 2019,

It is a great pleasure and honour for me to welcome you at the 25th edition of SIITME conference and exhibition event in Cluj-Napoca, this old city of Transylvania, with ancient Roman roots.

Started in Bucharest 25 years ago as an event focused on electronics packaging topics, our conference succeeded to reach major achievements. The first one represents the large involvement of several universities from this part of Europe to organize the event in or around their location in order to offer the possibility, for a large category of participants, to be in direct contact with electronics packaging issues. In this perspective, it is my duty to highlight, in historical evolution, the major academia contributors: University Politehnica of Bucharest, Technical University of Cluj-Napoca, Politehnica University of Timișoara, Technical University Gh. Asachi of Iași, North University of Baia Mare, Transilvania University of Brașov, Budapest University for Technology and Economics, University of Pitești, 1 December 1918 University of Alba Iulia, Dunărea de Jos University of Galați, University of Oradea, Maritime University of Constanța, some of these universities being hosts several times. The second achievement is related to the quality of the event. During the time, it has become a well-known IEEE conference, having the technical sponsorship of IEEE-EPS Hu&Ro Joint Chapter and IMAPS Romania Chapter. The conference papers are included in IEEE Xplore database, being ISI indexed.

However, the SIITME evolution must be seen also as a high-quality environment for shaping of young scientists for their public presence, as the capacity to present a paper in a plenum, the capability to highlight their posters during a 3 minutes oral presentation and, after then, next to their poster, the scientific competence to explain and discuss with the evaluation teams or SIITME participants coming from industry or academia. In addition, such skills, regarding the ability to communicate, represent important expertise for someone who wants to live in modern human society and not alone in a cave. During the time, many young experts have appreciated the importance of the oral or poster sessions at SIITME. From this perspective, please have a look, in this brochure, to some participants' opinions.

In those first two and a half decades of SIITME event, in our region, the electronics industry has grown significantly, becoming an important contributor to the region's prosperity. At the same time, it takes place a merging tendency between industry and academia, being very visible the first solid steps in creating a strong electronics packaging community. It is an honour for me to serve this community.

Of course, all the SIITME achievements were obtained with a tremendous and continuous involvement of numerous volunteer organisers from the academia and electronics industry. To all of them, and they are many, I want to thank very much!

Vivat, crescat, floreat!

(May it live, grow, and flourish)!

Prof. D.H.C. mult. Paul SVASTA, Ph.D.

University Politehnica of Bucharest, Romania,
Association for Promoting Electronics Technology
SIITME General Chair



FOREWORD

Although launched in 1995 by University POLITEHNICA in Bucharest, and hosted by major cities all over Romania, there is probably no better place to celebrate the 25th anniversary of SIITME than the dynamic and prestigious city of Cluj-Napoca.

Reaching full maturity, the SIITME conference has become a powerful and reliable forum, where specialists in the electronics industry come into direct contact with researchers and academics, for the benefit of both parties and with a significant impact on technological development.

It is worth highlighting the particularly important role of this scientific event in encouraging and supporting the integration of young researchers in the main stream of scientific manifestations. During the conference, many opportunities are created for them to come in contact with distinguished researchers, to expose their ideas in front of an informed audience and to practice and improve their communication and reasoning skills.

Located in the Someșul Mic river valley, Cluj-Napoca is considered the unofficial capital of the historical province of Transylvania, not only due to its geographical position, but especially because it is one of the most important academic, cultural, industrial and business centers in Romania. Nowadays, the city has gained worldwide visibility and appreciation as a continuously developing technology hub, which also led to it being nicknamed "The Silicon Valley of Eastern Europe".

The Technical University of Cluj-Napoca, by means of the Faculty of Electronics, Telecommunications and Information Technology, is highly honored to be the local co-organizer of the IEEE 25th International Symposium for Design and Technology in Electronics Packaging.

The Local Organizing Committee, as well as all other committees, spared no effort in creating a favorable environment for this anniversary SIITME edition, so that the exchange of scientific ideas is encouraged and future collaborations will emerge.

We wish all participants a pleasant and unforgettable experience during the conference days spent in Cluj-Napoca, Romania.

Prof. Gabriel Oltean, Ph.D.

Dean of The Faculty of Electronics, Telecommunication
And Information Technology
Technical University of Cluj-Napoca,
SIITME 2019 Conference Chair



SIITME TESTIMONY

My participation in the international Symposium for Design and Technology in Electronic Packaging, or SIITME, is relatively short compared to the "age" of the conference. The first contact with this conference was through my colleagues who had been participating for many years and were highly enthusiastic about its evolution. Then, in 2018, the conference was organized in Iasi, with the Faculty of Electronics, Telecommunications and Information Technology as local co-organizer.

The decision to organize the conference in Iasi is a result of organizing the TIE student competition in 2017 within our faculty, occasion with which I met a passionate, enthusiastic and professional group, whose motor, or better said, heart, is Professor Svasta. Talking to his collaborators, I found out about the history and evolution of the conference, and I was impressed by the dedication and perseverance with which they maintained and developed this event over the years. For a conference in Romania, 25 years is a venerable age, and the fact that it is organized annually at an increasingly high standard brings certified added value, confirmed by the impressive number and quality of participants.

The main goal of the conference is to bring together the academic community, researchers and the main players in the electronic industry. It facilitates connections between academia and industry, involving the latter in the creation of knowledge and integrating the academic act in the global electronic industry as the engine of science, technology and economy.

I was pleasantly surprised by the concentration of the conference, which consists of many events: plenary papers supported by renowned keynote speakers, poster sessions, presentation stands for industrial actors, awarding, and debates for finding solutions in problems of mutual interest. On the occasion of the 25th edition of SIITME, I would like to congratulate all those who have invested a great deal of their time and tremendous efforts in organizing, not an easy task, but a very important one. I wish you good luck and many editions with professional accomplishments.

Prof. Daniela Tărniceanu, Ph.D.

Dean of the Faculty of Electronics, Telecommunications and
Information Technology,
Gheorghe Asachi Technical University of Iași, Romania



SIITME at 25 years of electronic packaging

It is an honor and a great pleasure for me to express some of my thoughts about SIITME at its 25th anniversary, which takes place under the umbrella of the IEEE Electronics Packaging Society, EPS, (former CPMT Society) and is mainly sustained by the IEEE EPS, Hu & Ro Joint Chapter.

IEEE EPS has its own flagship, the Electronic Components and Technology Conference, ECTC, a well-established and premier electronic conference in the world for more than 70 years.

IEEE EPS has introduced in Asia since 1997 a second flagship, a counterpart to ECTC, the Electronics Packaging Technology Conference (EPTC).

The third flagship organized by IEEE-EPS since 2006, the Electronics System-Integration Technology Conferences (ESTC) is the premier venue for academics and industry to present and discuss the latest developments in assembly and interconnection technology and new applications in Europe.

IMAPS (International Microelectronics Assembly and Packaging Society) in Europe has also its flagship in Europe. The European Microelectronics and Packaging Conference (EMPC) is the major conference event organized by IMAPS Europe.

ESTC, the IEEE EPS event is held every even year, while EMPC, the IMAPS event, is held every odd year.

SIITME, surrounded by these “packaging flagships” supports the global community of electronics packaging engineers and scientists in Central and Eastern Europe with “state-of-the-art” research results.

The industrial session of SIITME is a good example of how industry from this part of the European Union presents to academia their demands for educating human resources according to company needs. And this becomes even more important as many companies across the EU are now forced by strong competition to shift their production and even R & D activities towards this region of the EU.

The workshop organized at the beginning of SIITME is a good opportunity for the participants to be informed by specialists of industry or research about the newest trends in electronic packaging.

In this way, SIITME is prepared to answer to the challenges of the future, like Internet of Things (IoT), Industrie 4.0, Digital Factory, Big-Data, Wearable Electronics, 3D Printing, just to mention a few of them.

I wish good luck to all participants of SIITME 2019 at its 25th edition!

Cluj-Napoca, October 23rd, 2019

Detlef Bonfert, Ph.D.

SIITME Technical Program Chair, TPC

Fraunhofer Research Institution for Microsystems and
Solid-State Technologies, EMFT

Flexible Systems, PT

Munich, Germany

detlef.bonfert@emft.fraunhofer.de



SIITME TESTIMONY V2.0

I have attended my first conference on September 17th, 2009, in Gyula, Hungary. This conference was my first SIITME conference and the very first conference of my life. The first conference of a scientist is like a stamp, which marks his / her life forever. It's like the first memories from childhood. I can still feel the wind from that day, the tension in the air which surrounded me, I can remember the persons I have met which said encouraging words to me, I can even hear the water drops falling from the water tap in bathroom where I made my tie before my very first conference and presentation.

I can remember that on my first SIITME conference I had two posters, I have started strong (at least I thought so). In this conference even the posters have to be presented with a few slides in front of big audience, which makes the chance for newcomers to practice their presentation skills, but also puts a big pressure on young, freshly graduated students. I can remember that I have started to count back the time and the number of persons before me, and as I was getting closer to the moment of the presentation my heart started to beat faster and faster every minute, my blood pressure was rising and my heart was pumping so much blood that I have felt that my veins will explode and I was almost about to faint. Then it came my presentation I don't know what happened, my voice was shaking during all my presentation, I didn't knew what I was doing, I don't remember too much, only the fact that my presentation was so bad that the audience was happy when I have finished it and was disappointed when they heard that after my first presentation I had a second presentation, because I had two posters. Even though I had a really bad presentation, it encouraged me to advance, progress and to enhance my presentation skills. I cannot say that I am not nervous before a new presentation or a new audience, but now I know that nothing can go bad and all this I can thank to the moment I stepped in the room where I had my first presentation at the SIITME 2009 conference in Gyula, Hungary.

I don't know if it exists a cure to fight the nervousness, but what I can say from my experience is that there is no need to be nervous, when you are a presenter, than there is your moment to shine, your few minutes to show your work to the world, you can be anyone you want to be and it depends on you if you take advantage of those moments or not. You don't need to be scared, you need to go in a trans state when you don't see nobody, just your work, it does not matter if there are 10 or 1000 persons in the room, you just have to focus on what you have to say and nothing else to matter, you have to believe that there is nothing you can't do in that moment. It's like swimming; it is the same if you swim in a 2 m of 100 m deep water. In a conference all eyes are on you, it is

you time, nobody wants to hurt you, everyone is eager to find out what you worked on the last year, and don't forget, it is your work, and you know it better than everyone in the audience, so it's hard to think that it would be or it will be somebody to put you in a bad light.

I don't know if it was fate or not, but the fact is that SIITME was the event which opened a big door for me in the scientific world, it gave me the chance to be somebody, to do something I like, to be complete, to feel comfortable, happy and to be able to shine.

I have heard often from my colleagues, when I attend conference I am totally changed, I am a different person, I became a person with full of life, I start to shine. When I talk about a conference, it can be seen that I am in my world, conferences are very important to me, I don't want to make mistakes or to be late at my presentation. Maybe this would not be the same if my first conference was not been SIITME. The organizers of this conference make the novices to feel at home, to feel cozy; they give students the chance to become somebody in the scientific world, to jump in the middle of the water by presenting in front of a big audience even their posters.

Even though my main areas of research are robotics and computers, I would never replace a conference with robots, attending conferences from distance or giving bigger importance to impersonal journals, even though they have higher points in curriculum vitae of a scientist. The personal connection between humans, scientists is irreplaceable. The connections, collaborations that can be bonded on a conference are like nothing in this world.

For me SIITME was the conference from which I have got the virus of conferences, which I cannot, will not, want not to cure for the rest of my life. It will flow in my veins as long as I shall live to be able to talk about it even for my grandsons before a fireplace. My favorite stories are my conference stories and implicitly my SIITME stories, since SIITME was my first conference and the most attended conference of my conferences, because I cannot believe that it's true, that this year is the 10th year I attend this conference. In the last 10 years I have published at least one paper at SIITME, every year. The conference stories of a scientist are like the stories of men talking about the time when they were in the army. There conferences are time periods which differ from the scientist's daily routines and the moments spent on a conference are unforgettable and can be a good material of the stories told by a scientist during his whole life.

It is no secret, that the SIITME publications helped me became what I am today. It helped me to finish my PhD, to receive a merit gradation, having the most number of articles in

my department, in the past five years, to become a lecturer and to advance even more in my carrier. SIITME helped me having 77 papers, 45 of them being indexed in Web of Knowledge, like every SIITME conference which is indexed in Web of Knowledge every year. I can also tell that one of my papers presented at my first SIITME 2009 conference in Gyula, is my second most cited paper. This proves a lot about how serious is the conference.

I can say only that SIITME is probably the best place to start for scientists, because it helps even young students to integrate in the scientific world. It has also a place for old scientists and for the engineers from the industry too.

I can warn you, that attending a SIITME conference can spread you a virus that you cannot get rid of your whole life following you and forcing you to return to conferences. It will be like drug that will make the person feel good only when they attend a conference.

I can say that I am very happy that on the 25th edition of SIITME it's my 10th publication at SIITME and I wish many more successful editions of this conference hoping that my grandsons will attend this conference knowing that this was the place where all the things begun for their grandfather and I hope the same also for them.

October 2019

Roland SZABÓ, Ph.D.

Applied Electronics Department,
Faculty of Electronics, Telecommunications and
Information Technologies,
Politehnica University of Timisoara



Thoughts on poster presentations

Research is a journey of learning. After graduating from the Faculty of Electronics, Telecommunications and Information Technology, in 2012, my lifelong professional aspirations began to take shape in my mind. Fascinated by the unknown, I dreamed to surround myself with high-minded people, and work in a team on world's open problems.

This dream came true in 2013 when I was offered a research assistant position in the same university I studied in: Politehnica University of Bucharest. Later that year, our first results were ready to be shared with the scientific community, at SIITME 2013. It was then when I felt the effect that the poster presentation has on the personal development of a young researcher. It is a common thought that an oral presentation takes more time to be prepared than a poster presentation. In the case of poster presentations, you have only three minutes to briefly describe your research subject and raise the interest of the audience. Presenting your subject in such a short time in a way to rise interest and draw the audience to further discussions is at least as challenging as preparing an oral presentation. It pushes you learn how to quickly get the attention of a large public, to communicate clearly, and master the skill of summarization, all being essential know-how in current times when we are bombarded with information.

I believe that one of the best personal and professional growth opportunities for a young researcher is represented by the time spent by the posters, after the short presentations, when you can discuss one-on-one with many experienced professors, but also with colleagues, and learn from them without being under the pressure of time. It is also a great opportunity to extend your network.

Here I am, in my seventh year of SIITME, ready to feel again the chisel of the poster presentation, be sculpted into a better person and researcher, and also participate in knowledge sharing, as this stands at the very basis of evolution.

October 2019

Robert A Dobre, Ph.D.
Telecommunication Department
Faculty of Electronics, Telecommunications and Information
Technology
University Politehnica of Bucharest



Wednesday, October 23

- 12:30 - 18:00 **Registration** (Registration desk, Hotel Lobby)
 13:00 - 16:45 **Professional Development Courses** (Ambassador Room)
 16:45 - 17:00 **Coffee Break**
 17:00 - 19:30 **Panel Discussion: “Challenges to Electronics for autonomous and electrical driving”** (Ambassador Room)
 19:30 - 21:00 **Welcome reception** (Hotel Napoca restaurant)
 21:00 - 22:00 **Steering Committee Meeting** (Privée Room)

Thursday, October 24

- | | | |
|---------------|--|---|
| 07:00 - 08:00 | Breakfast (Hotel Napoca restaurant) | |
| 08:00 - 12:00 | Registration (Registration desk, Hotel Lobby) | |
| 08:30 - 09:00 | Opening ceremony, Welcome words (Forum Room) | |
| 09:00 - 10:30 | Plenary Oral Session 1 (Forum Room) | |
| 10:40 - 11:00 | Coffee Break | |
| 11:00 - 12:30 | Plenary Oral Session 2 (Forum Room) | |
| 12:40 - 13:30 | Lunch | 12:30 - 15:00 Human Resources Workshop (Privée Room) |
| | Technical Exhibition | |
| 13:30 - 14:30 | Opening – Industrial Session (Forum Room) | 15:00 - 15:15 Coffee Break |
| | Cultural Program – | |
| 14:30 - 17:00 | Downtown sightseeing & Museums Visit | 15:15 - 17:00 IEEE – EPS Hu & RO Joint Chapter Meeting (Privée Room) |
| 17:00 - 19:30 | Poster Session 1 (Forum Room) | |
| 19:30 - 22:00 | Romanian Dinner (Hotel Napoca restaurant) | |

Friday, October 25

- 08:00 - 09:00 **Breakfast** (Hotel Napoca restaurant)
 09:00 - 11:00 **Registration** (Registration desk, Hotel Lobby)
 09:00 - 11:00 **Poster Session 2** (Forum Room)
 11:00 - 11:20 **Coffee Break**
 11:20 - 12:50 **Plenary Oral Session 3** (Forum Room)
 13:00 - 13:45 **Lunch**
 13:50 - 14:50 **Industrial Session** (Forum Room & Ambassador Room)

- 15:00 - 17:30 **Poster Session 3** (Forum Room)
17:30 - 17:50 **Coffee Break**
17:50 - 19:20 **Plenary Oral Session 4** (Forum Room)
19:30 - 20:30 **Steering Committee Meeting** (Privée Room)
20:30 - 23:00 **Conference Dinner and Awarding session** (Hotel Napoca restaurant)

Saturday, October 26

- 07:30 - 09:00 **Breakfast** (Hotel Napoca restaurant)
09:00 - 10:00 **Closing ceremony, looking forward to SIITME 2020** (Forum Room)
10:00 - 11:00 **Farewell coffee, End of Symposium**

General Chair:

Paul SVASTA, University Politehnica of Bucharest, Romania
Association for Promoting Electronics Technology

General Academic Co-Chair:

Dan PITICĂ, Technical University of Cluj-Napoca, Romania

General Industrial Chair:

Marian PETRESCU, Continental Automotive Romania, Romania

General Industrial Co-Chair:

Daniela POPESCU, Technical University of Cluj-Napoca, Romania

Conference Chair:

Gabriel OLTEAN, Technical University of Cluj-Napoca, Romania

Conference Co-Chair:

Cosmin MOISA, Continental Automotive, Timisoara, Romania

Technical Program Chair:

Detlef BONFERT, Fraunhofer EMFT, München, Germany

Technical Program Co-Chair:

Norocel CODREANU, University Politehnica of Bucharest, Romania

Awards Committee Chair:

Heinz WOHLRABE, Dresden University of Technology, Dresden, Germany

Scientific Committee Chair:

Balázs ILLÉS, Budapest University of Technology and Economics, Hungary

Scientific Co-Chairs:

Heinz WOHLRABE, Dresden University of Technology, Germany
Ciprian IONESCU, University Politehnica of Bucharest, Romania

Promotion & Advertising Committee

Chair:

Alexandra FODOR, Technical University of Cluj-Napoca, Romania

Human Resource Education and Training

Committee Chair:

Aurelia FLOREA, MIELE Tehnica, Braşov, Romania

Publication Chair:

Gabriel CHINDRIŞ, Technical University of Cluj-Napoca, Romania

Publication Co-Chair:

Bogdan MIHĂILESCU, University Politehnica of Bucharest, Romania

International Publication Advisor:

Zsolt ILLYEFALVI-VITÉZ, Budapest University of Technology and Economics, Hungary

Local Organising Committee

Technical University of Cluj-Napoca, Romania

Chair:

Ovidiu Aurel POP, Technical University of Cluj-Napoca, Romania

Co-Chairs:

Ionel BACIU, Technical University of Cluj-Napoca, Romania
Rajmond JÁNÓ, Technical University of Cluj-Napoca, Romania

Technical Secretariat

Delia LEPĂDATU, University Politehnica of Bucharest, Romania

Cristina Mihaela LEPĂDATU, Association for Promoting Electronics Technology, Romania

Mariana PĂTULEANU, University Politehnica of Bucharest, Romania

Florentina STĂLINESCU, Association for Promoting Electronics Technology, Romania

Many thanks to the reviewers for their outstanding effort to assure a high quality of abstracts of conference papers.

Reviewers:

Adrian Petrariu, Ștefan cel Mare University of Suceava, Romania

Adrian Taut, Technical University of Cluj-Napoca, Romania

Adriana Florescu, University Politehnica of Bucharest, Romania

Alexandra Fodor, Technical University of Cluj-Napoca, Romania

Alin Grama, Technical University of Cluj-Napoca, Romania

Alin Gheorghita Mazare, University of Pitești, Romania

Aurel Gontean, Politehnica University of Timișoara, Romania

Balázs Illés, Budapest University of Technology and Economics, Hungary

Bogdan Mihailescu, University Politehnica of Bucharest, Romania

Ciprian Ionescu, University Politehnica of Bucharest, Romania

Dan Pitica, Technical University of Cluj-Napoca, Romania

Daniel Visan, University of Pitești, Romania

Detlef Bonfert, Fraunhofer EMFT, Munich, Germany

Dorel Aiordachioaie, Dunărea de Jos University of Galați, Romania

Dorin Petreuş, Technical University of Cluj-Napoca, Romania

Eugen Coca, Ștefan cel Mare University of Suceava, Romania

Ioan Lita, University of Pitești, Romania

Laurentiu Frangu, Dunărea de Jos University of Galați, Romania

Laurențiu Ionescu, University of Pitești, Romania

Mihaela Hnatiuc, Maritime University of Constanta, Romania

Mihai Daraban, Technical University of Cluj-Napoca, Romania

Nistor Daniel Trip, University of Oradea, Romania

Norocel Codreanu, University Politehnica of Bucharest, Romania

Oliver Krammer, Budapest University of Technology and Economics, Hungary

Ovidiu Aurel Pop, Technical University of Cluj-Napoca, Romania

Paul Svasta, University Politehnica of Bucharest, Romania

Pavel Mach, Technical University of Prague, Czech Republic

Petre Ogrușan, Transilvania University of Brașov, Romania

Radu Gabriel Bozomitu, Gheorghe Asachi Technical University of Iași, Romania

Rajmond Jano, Technical University of Cluj-Napoca, Romania

Rodica Constantinescu, University Politehnica of Bucharest, Romania

Viman Liviu, Technical University of Cluj-Napoca, Romania

Zsolt Illyefalvi-Vitez, Budapest University of Technology and Economics, Hungary

SIITME History

1995 - Utilizarea calculatoarelor în Tehnologia Subansamblelor electronice CAE-CAD-CAM, UPB, București

SIITME'96, Al II-lea Seminar Internațional de Informatică Tehnologică în domeniul Fabricației Modulelor electronice, 23-24 Octombrie 1996, București, România

SIITME'97, The 3rd International Seminar for Informatics and Technology in the domain of Electronic modules, 22-23 October 1997, Bucharest, Romania

SIITME'98, The 4th International Symposium for Informatics and Technology in Electronic Modules Domain, September 22-24 1998, Bucharest, Romania

SIITME'99, The 5th International Symposium for Design and Technology in Electronic Modules, September 23-26 1999, Bucharest, Romania

SIITME 2000, The 6th International Symposium for Design and Technology for Electronic Modules, September 21-24, 2000, Bucharest, Romania

SIITME 2001, The 7th International Symposium for Design and Technology of Electronic Modules, September 20-23, 2001, Bucharest, Romania

SIITME 2002, The 8th International Symposium for Design and Technology of Electronic Modules, September 19-22, 2002, Cluj-Napoca, Romania

SIITME 2003, The 6th International Symposium for Design and Technology of Electronic Packages, September 18-21, 2003, Timișoara, Romania

SIITME 2004, The 10th International Symposium for Design and Technology for Electronic Modules, September 23-26 2004, Bucharest, Romania

SIITME 2005, International Symposium for Design and Technology of Electronic Packaging, 11th Edition, September 22-25, 2005, Cluj-Napoca, Romania

SIITME 2006, International Symposium for Design and Technology of Electronic Packaging, 12th Edition, September 21-24, 2006, Iași, Romania

SIITME 2007, International Symposium for Design and Technology of Electronic Packaging, 13th Edition, September 20-23, 2007, Baia Mare, Romania

SIITME 2008, International Symposium for Design and Technology of Electronic Packaging, 14th Edition, September 18-21, 2008, Predeal, Romania

SIITME 2009, 15th International Symposium for Design and Technology of Electronic Packages, 17-20 September 2009, Gyula, Hungary

SIITME 2010, 16th International Symposium for Design and Technology in Electronic Packaging, September 23-26, 2010, Pitești, Romania.

SIITME 2011, IEEE 17th International Symposium for Design and Technology in Electronic Packaging, October 20-23, 2011, Timișoara, Romania.

SIITME 2012, IEEE 18th International Symposium for Design and Technology in Electronic Packaging, Alba Iulia

SIITME 2013, IEEE 19th International Symposium for Design and Technology in Electronic Packaging, Galati

2014 IEEE 20th International Symposium for Design and Technology in Electronic Packaging, October 23–26, 2014, Bucharest, România

2015 IEEE 21st International Symposium for Design and Technology in Electronic Packaging, October 22-25, 2015, Brasov, România

2016 IEEE 22nd International Symposium for Design and Technology in Electronic Packaging, October 20-23, 2016, Oradea, România

2017 IEEE 23rd International Symposium for Design and Technology in Electronic Packaging - October 26-29, 2017, Constanta, Romania

2018 IEEE 24th International Symposium for Design and Technology in Electronic Packaging - October 25–28, 2018, Iași, Romania



Keynote speaker:

Prof. András Poppe, Ph.D., Head of the Department of Electron Devices
Budapest University of Technology and Economics

e-mail: poppe@eet.bme.hu

Presentation:

"Extension of thermal transient testing towards LED multi-domain modelling and reliability testing"

András Poppe obtained his PhD degree from the Budapest University of Technology and Economics (BME) in 1996. Currently he is the head of the Department of Electron Devices of BME where he is a full time professor. As one of the co-founders of Mentor's present MicReD product line, he is also active at Mentor, a Siemens business as a scientific advisor. He has been active in characterization of LEDs and OLEDs since 2003; he initiated the development of an equipment aimed at the combined thermal and radiometric/photometric testing of power LEDs (the present SIMCENTER TERALED product of Siemens/Mentor). He also has more than 2 decades of expertise in multi-domain modelling and simulation of semiconductor devices. He had significant contributions to JEDEC's and CIE's LED testing standards / recommendations; currently he is chairing the TC2-84 technical committee of CIE and is an active member of the JEDEC JC15 committee. András Poppe is the leader of the LED modelling workpackage of the Delphi4LED project of the EU. In 2013 he obtained the Harvey Rosten Award of Excellence for his publication on LED multi-domain modelling. In 2018, as a co-author he obtained the Harvey Rosten Award of Excellence for the second time, now shared with János Hegedüs and Gusztáv Hantos, for their 2017 publication on LED multi-domain models extended with LED lifetime.



Keynote speaker:

Assoc. Prof. Marius Neag, Ph.D.

Technical University of Cluj-Napoca, Romania Digitally Enhanced RF, Analog and Mixed-Signal Research Group

e-mail: Marius.Neag @bel.utcluj.ro

Presentation:

“A methodology based on electro-thermal simulations for designing over-temperature protection of linear and switch-mode power management ICs”

Marius Neag is an Associate Professor at the Technical University of Cluj-Napoca, Faculty of Electronics, Telecommunications and Information Technology, where he lectures on the design of RF, Analog and Mixed-Signal ICs. Marius Neag received the Electronic Engineer Diploma from the Technical University of Cluj-Napoca, Romania, in 1991 and was awarded the PhD degree in electronics by the University of Limerick, Ireland, in 1999. He is the author and co-author of over 100 scientific publications, 2 books and 2 international patents.

After completing his PhD studies he has worked several years in Ireland and the US as an IC designer and technical lead for the development of products ranging from fully integrated radio receivers for DAB and SoC transceivers for GSM and digital TV, to transceivers for wired communications and front-ends for data storage and sensors.

On his return to the Technical University of Cluj-Napoca he has contributed to the founding of the DERFAIC - “Digitally-Enhanced RF & Analog Integrated Circuits” - research group, <https://icdesign.utcluj.ro/>. His main activities there are related to the systematic design of RF, Analog and Mixed-Signal Integrated Circuits such as frequency synthesizers, analog front-ends and power management. He also works on circuit theory – particularly on feedback analysis and optimized synthesis of analog & digital filters - as well as on acoustics – modeling of enclosed spaces and development of electronic equipment for enhanced acoustic performance. In the last few years he has focused on power management ICs, as the director of the PartEnerIC project <https://parteneric.utcluj.ro/>, implemented within the EU-funded POC program. PartEnerIC targets the development of new techniques for the design and silicon integration, followed by characterization, high-level modeling and yield analysis of high-performance linear regulators and DC-DC converters for automotive applications.

Keynote speaker:



Catalin Negrea, Ph.D.

Lead Engineer / Virtual Prototyping

Continental Automotive Romania

Instrumentation & Driver HMI \ Interior Camera Group

e-mail: catalin.negrea@continental-corporation.com

Presentation:

”Challenges of Embedded DDR Memory Interface Integration for the Automotive Industry”

Catalin Negrea (born 1985) is the initiator and coordinator of a virtual prototyping team within Continental Automotive Romania, focused on the development of high-end design solutions for interior HMI and driver monitoring. In 2013 he was nominated as a company level expert in the field of signal and power integrity. He obtained a Ph. D. degree from Politehnica University of Bucharest in 2013, with a thesis focused on multidisciplinary modeling and electro-thermal simulation of semiconductor devices.

Catalin has organized several workshops on the topic on high-speed design and is a strong advocate of the concept “simulation-driven design flow”. He has provided several talks at conferences and engineering simulation user meetings on the importance of virtual prototyping and concurrent engineering. Starting from 2015 he is also coordinating TIEplus, a student contest focused on the signal integrity simulation of high-speed interfaces.

Catalin is the author of more than 20 scientific papers in the fields of thermal management and signal integrity. His current research activities are focused on infrared LED multi-domain modeling and signal-power integrity co-simulation.



Keynote speaker:

Dan Pupeza, Ph.D.

Radio Engineering Pupeza

e-mail: Dan.Pupeza@t-online.de

Presentation:

“Using GDMA principle in UHF RFID applications”

Dan Pupeza received MS, Electronics Engineer/Physicist, from the Polytechnic Institute, Bucharest, Romania in 1968. Till 1978 he was Research engineer and project coordinator for communications equipment at the Electronic research Institute in Bucharest, Romania. He has designing solid state linear power amplifiers for SSB transmitters, automatic antenna matching units, TCXOs for large temperature ranges, VHF Transmitters for calibration of radar stations. In 1978 has started research activities on Microwave Cavity Stabilized Oscillators intended for satellite communications. Till 1990 was department manager of microwave communications in the electronic research institute in Bucharest, Romania, developing satellite receiving stations, antennas and navigation receivers. In 1990 he received PhD, Radio Communications from the Polytechnic Institute, Bucharest, Romania. After receiving a passport he leaved Romania and established in Germany, Bad Salzdetfurth. He works further in microwave and satellite communications, developing Ku band VSAT Transceivers, low phase noise synthesizer for applications at 13GHz and for CATV, providing technical support in the design of radio relay links at 23GHz and 38GHz, designing GSM repeaters, antennas and cavity filter with quartz-like characteristics as employed in different German companies.

In 2014 he founded its company, Radio Engineering Pupeza. He is doing research and developing activities in the field of microwave communications, antennas, radar, localization and RFID.

The company is supported for marketing, mechanical engineering as software experience too. We find most interesting multidisciplinary activities and new ways to achieve strange targets.

More than 20 papers are written till 1995 and patents till 1994 are available.



Podium discussion moderator:

Prof. Dr.-Ing. habil. Dr. H. C. Mult. Klaus-Jürgen Wolter

Technische Universität Dresden

e-mail: wolter@avt.et.tu-dresden.de

Panel Discussion:

Trends in automotive electronics

Prof. **Klaus Wolter's** research interests have embraced many aspects of microelectronics packaging, including substrate technologies, assembly technologies, photonic packaging, MEMS, joining technologies, reliability of electronic packages, and non-destructive test methods.

He is well known as the co-editor and co-author of six textbooks, co-editor of three book series with a total of 39 books, author and co-author of more than 200 papers.

He is a senior member of IEEE-CPMT.

Prof. Wolter was the Director of the Electronic Packaging Lab at TU Dresden from 2003 to 2014. From March 2015 to March 2017, he was a visiting professor at the 3D Systems Packaging Research Center of Georgia Tech Atlanta where he researched on system-integration for advanced automotive electronics. Currently he is a senior professor at TU Dresden.



Toni Mattila, Ph.D. (Tech), Adj. Prof., Program Director; Regional Director (Region 8, EMEA)
***Connected Intelligent Industries Finland
Business Finland***

e-mail: Toni.Mattila@businessfinland.fi

Presentation:
IEEE-EPS Welcome

Toni Mattila has served as Regional Director (Region 8, EMEA) for IEEE Electronics Packaging Society (EPS), f.k.a. CPMT Society, since 2012. Toni has also served the six-year term as an elected member of the Board of Governors for IEEE-EPS society in 2011 – 2016. His other IEEE activities include, for example, a membership of technical committees of EPS flagship conferences in USA, Europe, and Asia. In 2014, he was the executive chair of IEEE-EPS’s European flagship conference, the Electronics System Integration Technology Conferences, in Helsinki Finland. Toni is also actively involved with other IEEE matters; He has served as the Chairman of the IEEE Finland Section since 2016 and he is also an active supporter of the IEEE Region 8 Action for Industry initiative.

In his daily job, Toni is a Program Director at Business Finland, the national business promotion corporation of Finland. He received his Doctoral degree in electrical engineering in 2005, the Master’s degree in Materials Science and Engineering in 1999, and the Bachelor degree in Finance and Accounting in 2015. Prior to his current job, Toni has worked in the ICT industry for three years and academia for 14 years.



Fabian Henze, Agile Coach Miele Gutersloh,
Germany

MIELE

e-mail: fabian.henze@miele.com

Fabian Henze started his professional career as an embedded software engineer in a small company in the UK and moved to London a few years later to work on base components of Symbian OS. Here he gained experience in working on software projects across the globe together with development teams in China and India. Following this, he joined Miele, the family-owned premium appliance makers.

In the last few years he set up their software development department in Braşov, Romania. Most recently he returned to Germany to support the implementation of the digital strategy as Agile Coach. He is a seasoned agile practitioner and firmly believes in the power of the team.

He was educated in Germany and the UK and holds engineering degrees from the University of Applied Sciences Münster as well as the University of Portsmouth.

Professional development short course

„Extension of thermal transient testing towards LED multi-domain modelling and reliability testing“

Abstract

In the past two decades thermal transient testing became common practice in thermal characterization of packaged semiconductor devices. The classical application is the identification of thermal metrics of packages such as junction-to-case or junction-to-ambient thermal resistance. The structure functions derived from measured thermal impedance curves offer much more than just identification of thermal metrics. The detailed structural information obtained about the junction to ambient heat-flow path allows e.g. qualification of die attach layers (detect voiding or delamination) which can be further exploited in reliability testing. Structure functions also help calibrate detailed 3D thermal models of device packages and derive compact thermal models as well. In case of LEDs, the real thermal resistance / impedance can be derived only if thermal and radiometric measurements are combined. The obtained test data also support modelling the multi-domain behavior of LED packages. This was exploited in the recently finished Delphi4LED H2020 ECSEL project of the EU, resulting in new, Industry 4.0 workflows of designing LED based luminaires. The topics covered by the course include:

- Overview of thermal testing standards used in package characterization, the basic principles of thermal transient testing
- Introduction to structure functions and their applications
- Issues of testing LED packages; isothermal IVL measurements
- Test based multi-domain modelling of LEDs; using LED multi-domain models in an Industry 4.0 compliant luminaire design flow
- Thermal transient testing combined with power cycling and LED life-time tests; new power cycling testing solutions for power semiconductor device packages

Prof. András Poppe, Ph.D., Head of the Department of Electron Devices
Budapest University of Technology and Economics

Podium discussion:

“Challenges to Electronics for autonomous and electrical driving”

The safety, efficiency and degree of automation of electro mobility depending on the functions and reliability of future electronic modules for autonomous and electrical driving. The application of these modules ranges from sensors for the perception of the vehicle environment as well as condition monitoring, the communication electronics inside and outside the vehicle, infotainment and navigation systems to power electronics and energy storage for electric propulsion, vehicle air conditioning and vehicle lighting. The future of these modules is characterized by demands for higher functionality with simultaneous further miniaturization, real-time signal processing, sensor fusion using AI, high reliability and robustness as well as modern and cost-effective manufacturing processes.

The panelists will discuss the following questions with the audience:

How to manage the exploding technical complexity?

- The increasing amount of semiconductors (today 600 in the future 7000),
- The need for higher integration level on chip, package and module level,
- The increasing reliability requirement due to extended lifetime requirements,
- The much stringer safety requirements,
- The increasing liability risks for OEMs and the supply chain for autonomous driving.

How to educate the next generation of automotive engineers?

- Requirements of the car industry to the curricular contents,
- Need for closer partnership between the car industries and academia.

The panelists will be:

- Prof. Klaus-Jürgen Wolter, Technische Universität Dresden (moderator)
- Prof. Paul Svasta, University Politehnica of Bucharest; Association for Promoting Electronics Technology
- Dan Lazarescu, Director at Robert Bosch GmbH, Engineering Center Cluj
- Cosmin Moisa, Head Of Department at Continental Automotive Romania

Strategic Partnership for Education 2030 Joint event Workshop HR

Previous editions of SIITME provided the favorable framework for meeting and collaborating with industrial and academic partners, with the purpose of developing a permanent partnership to support the future progress of the electronic industry. The two key elements considered are technology and human resources.

In present, we know that the European strategy has as priority the promotion of economic growth: sustainable, intelligent, based on the knowledge and on putting them into practice through innovation and inclusion oriented - employment. (www.mae.ro)

We are pleased to see the constant concern and motivation of the SIITME participants for research and innovation. Topics approached such as robotics, artificial intelligence, virtual prototype, intelligent network, thermal management, assembly and manufacturing technology, etc. are the proof that industry is in a continuous and fast technological transformation.

With focus on digitization, automation and robotization, the objective of the economic environment targets the opportunity to develop the skills and abilities of the next generation: cognitive flexibility, overall vision, critical thinking, innovation, etc. Our challenge as an employer is to develop a framework in which the aforementioned topics are not single and scattered, but are part of a solid strategy.

Miele's constant involvement and support encourages the delivery of research projects with high potential for implementation, which helps the company grow in the direction of continuous improvement.

A work environment that owns and offers access to state-of-the-art technology and where employees feel encouraged to experiment and exchange know-how generates innovation.

Miele is constantly involved and supports the academic environment in order to align the concept of education with the requirements of the industry.

Only through mutual support we can reach solutions, so that the future generation could have the possibility of developing a professional career in any industry.

Aurelia Florea

Human Resources and Procurement Director, Miele Brasov



Joint Event Workshop HR

Strategic Partnership for Education (Privée Room)

12:00-12:20 **Workshop opening, Strategic Partnership for Education**

Dan PITICĂ, Ph.D., Vice-rector at Technical University of Cluj-Napoca

Aurelia FLOREA, HR Director Miele Romania and Working Group Coordinator - Industry and Academic Environment

Paul SVASTA, Ph.D., University Politehnica of Bucharest, Association for Promoting Electronics Technology

12:20-14:45 **Presentation Session: Relationship: Educational environment - Industrial environment - Concrete actions**

Chairman: Dan PITICĂ, Ph.D., Vice-rector at Technical University of Cluj-Napoca

Co-chair: Cosmin MOISA – Head Of Department at Continental Automotive Romania

Strategic Partnership for Education working group activities - follow-up

Aurelia FLOREA, HR Director Miele Romania and Working Group Coordinator - Industry and Academic Environment

Holistic Education

Importance of Academic and Industry Partnership - Good actions practices that contribute to the development of competences

Fabian HENZE, Agile Coach Miele Gutersloh, Germany

Q&A session

Debate related to the Holistic education Approach

Workshop participants

14:45-14:55 **Summary and further actions**

Aurelia FLOREA, HR Director Miele Romania and Working Group Coordinator - Industry and Academic Environment



Hungary/Romania Section Jt Chapter, EP21 (Privée Room)

Preliminary agenda

Chairpersons of the meeting (Chapter founders, 1999):

Zsolt Illyefalvi-Vitez, Ph.D., Budapest University of Technology and Economics

Paul Svasta, Ph.D., University Politehnica of Bucharest, Association for Promoting Electronics Technology

Invited persons:

Toni Mattila, Ph.D. - Connected Intelligent Industries Finland - IEEE-EPS Welcome

Cristian Negrescu, Ph.D. - IEEE Romania Section Chair

Marian Petrescu, Ph.D. - Continental Automotive Romania

Constantin Vertan, Ph.D. -ARACIS Engineering Sciences II Commission Chair

Klaus-Jürgen Wolter Ph.D. – Technical University of Dresden

Report regarding the IEEE-EPS Hu&Ro Joint Chapter activity

Ciprian Ionescu, Ph.D. - Chapter Chair

Strategic approach of the ESTC events

Toni Mattila, Ph.D. - IEEE-EPS Region 8 Director

Cooperation between NTC (Nanotechnology Council) and Hu&Ro EPS Chapter

Attila Bonyár, Ph.D., Budapest University of Technology and Economics

Hu&Ro Chapter officer election

Election Committee: Paul Svasta, Zsolt Illyefalvi-Vitez, Norocel Codreanu

Thursday, October 24

08:30 – 09:00 **Opening ceremony, Welcome words**
(Forum Room)

Gabriel OLTEAN, Technical University of Cluj- Napoca, Romania

Paul SVASTA, University Politehnica of Bucharest, Romania

Toni MATTILA, Connected Intelligent Industries Finland - IEEE-EPS Welcome

Thursday, October 24

09:00 – 10:30 **Plenary Oral Session 1**
(Forum Room)

Session Chair: *Klaus-Jürgen WOLTER, Technische Universität Dresden*

Session Co-Chair: *Toni MATTILA, Connected Intelligent Industries Finland*

09:00 - KN1 - Extension of thermal transient testing towards LED multi-domain modelling and reliability testing

András Poppe, Prof., Head of Department of Electron Devices, Budapest University of Technology and Economics, BME

09:40 – O1 - Enabling IoT in Education 4.0 with BioSensors from Wearables and Artificial Intelligence

Monica I. Ciolacu, TH Deggendorf & UPB CETTI; Leon Binder, THD; Heribert Popp, TH Deggendorf

10:05 – O2 - New Laboratory Concept Used with the Data Acquisition System Fundamentals Course

Mircea Dabacan, Technical University of Cluj-Napoca; Viman Liviu, Technical University of Cluj-Napoca; Vlad Bande, Technical University of Cluj Napoca, Romania

Thursday, October 24

11:00 – 12:30 Plenary Oral Session 2 (Forum Room)

Session Chair: Pavel MACH, Technical University of Prague, Czech Republic

Session Co-Chair: Dan PITICĂ, Technical University of Cluj- Napoca, Romania

11:00 – KN2 - A methodology based on electro-thermal simulations for designing over-temperature protection of linear and switch-mode power management ICs

Marius NEAG, Associate Professor at the Technical University of Cluj-Napoca, Romania

11:40 – O3 - Aspects Regarding Radiated Emissions Produced by a Head Up Display

Andrei Marius Silaghi, Politehnica University Timisoara; Octavian Pacurar, Continental Automotive Timisoara; Aldo De Sabata, Politehnica University Timisoara

12:05 – O4 - Reliability Tests on SAC-xMn Solder Alloys

Szabolcs Szurdán, 1Metalloglobus Fémöntő és Kereskedelmi Kft; Bálint Medgyes, BME-ETT; Tamás Mende, University of Miskolc, Faculty of Materials Science and Engineering; Richárd Berényi, BME-ETT, Budapest, Hungary; László Gál, BME-ETT, Budapest, Hungary; Gábor Harsányi, BME-ETT, Budapest, Hungary

Thursday, October 24

13:30 – 14:30 Technical Exhibition Opening – Industrial Session (Forum Room & Ambassador Room)

Session Chair: Ovidiu Aurel POP, Technical University of Cluj-Napoca, Romania

Session Co-Chair: Bogdan MIHĂILESCU, University Politehnica of Bucharest, Romania

Analog Devices GMBH SPD, Romania

ARC Braşov, Romania

LEONI Romania Wiring Systems RO,
Romania

CaelynX Europe, Romania

Friday, October 25

11:20 – 12:50 **Plenary Oral Session 3** **(Forum Room)**

Session Chair: Heinz WOHLRABE, Dresden University of Technology, Dresden, Germany

Session Co-Chair: Ivaylo STOYANOV, University of Ruse Angel Kanchev, Bulgaria

11:20 – KN3 - Challenges of Embedded DDR Memory Interface Integration for the Automotive Industry

Catalin Negrea, Ph. D., Lead Engineer \ Virtual Prototyping, Continental Automotive Romania

12:00 – O5 - Investigating the Component Shift during Reflow Soldering at Large Scale Capacitors

Oliver Krammer, BME-ETT; Richárd Szilágyi, BME-ETT; Attila Géczy, BME-ETT

12:25 – O6 - Comparative Performance Analysis of Dye Sensitized Solar Cells

Ciprian Ionescu, UPB-CETTI; Alexandru Vasile, UPB-CETTI; Paul Svasta, UPB-CETTI; Norocel Codreanu, UPB-CETTI; Marin Gheorghe, Nanom-MEMS

Friday, October 25

13:50 – 14:50 **Industrial Session** **(Forum Room & Ambassador Room)**

Session Chair: Ioan LIȚĂ, University of Pitești, Romania

Session Co-Chair: Marian PETRESCU, Continental Automotive Romania, Iași, Romania

Continental Automotive Romania

RomTek Electronics, Romania

Inteligent Convergent Solutions (ICOS),
Romania

NTT Data, Romania

Friday, October 25

17:50 – 19:20 Plenary Oral Session 4

(Forum Room)

Session Chair: Dorin PETREUS, Technical University of Cluj-Napoca, Romania

Session Co-Chair: Balázs ILLÉS - Budapest University of Technology and Economics, Hungary

17:50 – KN4 – Using GDMA principle in UHF RFID applications

Dan PUPEZA, Radio Engineering Pupeza, Bad Salzdetfurth, Germany

18:30 – O7 - LoRaWAN Gateway: Design, Implementation and Testing in Real Environment

Adrian I. Petrariu, Stefan cel Mare University of Suceava; Alexandru Lavric, Stefan cel Mare University of Suceava; Eugen Coca, Stefan cel Mare University of Suceava

18:55 – O8 - Design and Characterization of a Micrometric Magneto-resistive Sensor

Elena Stetco, Technical University of Cluj-Napoca; Ovidiu A. Pop, Technical University of Cluj-Napoca; Ana Cristina Davidas, Technical University of Cluj-Napoca; Traian Petrisor, Technical University of Cluj-Napoca; Mihai Gabor, Technical University of Cluj-Napoca

Posters Assessor Committee:

General Poster Session Chair: Heinz WOHLRABE, Technical University of Dresden, Germany

Co-Chair: Cristina MARGHESCU, University Politehnica of Bucharest, Romania

Bande Vlad, Technical University of Cluj-Napoca, Romania

Berinde Florin, Vitesco Technologies Engineering Romania

Bonfert Detlef, Fraunhofer EMFT, Germany

Bonteanu Gabriel, Gheorghe Asachi Technical University of Iași, Romania

Bozomitu Radu Gabriel, Gheorghe Asachi Technical University of Iași, Romania

Chindris Gabriel, Technical University of Cluj-Napoca, Romania

Chiriacescu Paul, ARC Brasov, Romania

Coca Eugen, Ștefan cel Mare University of Suceava, Romania

Codreanu Norocel, University Politehnica of Bucharest, Romania

Costea Ilona Madalina, University Politehnica of Bucharest, Romania

Daraban Mihai, Technical University of Cluj-Napoca, Romania

Evstatiev Boris, University of Ruse Angel Kanchev, Bulgaria

Grama Alin, Technical University of Cluj-Napoca, Romania

Hnatiuc Mihaela, Maritime University of Constanta, Romania

Illés Balázs, Budapest University of Technology and Economics, Hungary

Ionescu Ciprian, University Politehnica of Bucharest, Romania

Ionescu Laurentiu, University of Pitești, Romania

Kadirova Seher, University of Ruse Angel Kanchev, Bulgaria

Krammer Oliver, Budapest University of Technology and Economics, Hungary

Lita Ioan, University of Pitești, Romania

Lung Claudiu, Technical University of Cluj Napoca North University Center of Baia Mare, Romania

Mach Pavel, Czech Technical University in Prague, Czech Republic

Mazare Alin, University of Pitești, Romania

Medgyes Bálint, Budapest University of Technology and Economics, Hungary
Mihailescu Bogdan, University Politehnica of Bucharest, Romania
Moisa Cosmin, Continental Automotive Romania
Mutkov Valentin, University of Ruse Angel Kanchev, Bulgaria
Nastac Dumitru-Iulian, University Politehnica of Bucharest, Romania
Negrea Catalin, Continental Automotive Romania
Pantazica Mihaela, University Politehnica of Bucharest, Romania
Petrariu Adrian-Ioan, Ștefan cel Mare University of Suceava, Romania
Petreus Dorin, Technical University of Cluj-Napoca, Romania
Pica Bogdan, NTT DATA Romania
Pitica Dan, Technical University of Cluj-Napoca, Romania
Pop Ovidiu Aurel, Technical University of Cluj-Napoca, Romania
Pop Septimiu Sever, Technical University of Cluj-Napoca, Romania
Raimondi Francesco, TELEDYNE LE CROY, France
Serbanescu Andrei, RomTek Electronics, Romania
Stoyanov Ivaylo, University of Ruse Angel Kanchev, Bulgaria
Svasta Paul, Association for Promoting Electronics Technology, University Politehnica of Bucharest, Romania
Szabo Roland, Politehnica University of Timisoara, Romania
Trip Nistor Daniel, University of Oradea, Romania
Tulbure Adrian-Alexandru, "1 Decembrie 1918" University of Alba Iulia, Romania
Țigăeru Liviu, Technical University Gheorghe Asachi of Iasi, Romania
Viman Liviu, Technical University of Cluj-Napoca, Romania
Wolter Klaus-Juergen, TU Dresden/IAVT, Germany

Thursday, October 24 Presenters: Stick-up poster after registration!

17:00 - 19:30 **Poster Session 1 (Start with a pitching session*)**

** Each author must deliver a maximum 3 minutes slide show presentation of her/his work.*

Poster Session 1 (Forum Room)

Session Chair: Bálint MEDGYES, Budapest University of Technology and Economics, Hungary

Session Co-Chair: Eugen COCA, Stefan cel Mare University of Suceava, Romania

P1.1 Adaptive Learning for Virtual Investigation of Capacitors' Electrical and Physical Properties

Ivaylo Stoyanov, University of Ruse; Teodor B. Iliev, University of Ruse; Boris I Evstatiev, University of Ruse Angel Kanchev; Grigor Mihaylov, University of Telecommunications and Post

P1.2 Study of bio-film evolution using a monitoring water system

Mihaela Hnatiuc, Maritime University of Constanta; Simona Ghita, Maritime University of Constanta; Laura Inge, INSA Centre val De Loire; Khaled Chetehouna, INSA Centre val de Loire

P1.3 2D Virtual Laboratory for Teaching BCD to Seven-Segment Decoders in Logic Design Classes

Nadezhda Evstatieva, University of Ruse Angel Kanchev; Boris I Evstatiev, University of Ruse Angel Kanchev; Dimitar Trifonov, University of Ruse Angel Kanchev

P1.4 Fuzzy logic algorithm in autonomous vehicle navigation based on RFID sensors

Ion Nicolae Stancel, University Politehnica of Bucharest

P1.5 Determination of deformations in PCB using tensometric stamps

Ionel Horea Baciu, Technical University of Cluj Napoca

P1.6 Setup for Piezoelectric Energy Harvesting System

Corina N Covaci, Politehnica University of Timisoara; Ismet Porobic, Politehnica University of Timisoara; Aurel Gontean, Politehnica University of Timisoara

P1.7 Solar Tracker for Autonomous Power Supplying of Electronic Systems Used in Precision Agriculture

Ioan Lita, University of Pitesti; Daniel Visan, University of Pitesti

P1.8 Transmission Module with Frequency Hopping for Wireless Sensor Mesh Networks Used in Plant Stress Monitoring Systems

Ioan Lita, University of Pitesti; Daniel Visan, University of Pitesti

P1.9 Developing Software-Based Plug&Play Capabilities for Analog Sensors over a Network Using a Microcontroller Development Board

Bogdan Mihai Sergiu V Croitoru, 1 Decembrie 1918 University of Alba Iulia; Adrian Tulbure, 1 Decembrie 1918 University of Alba Iulia; Adriana Ioana Filip, Valahia University of Târgoviște

P1.10 Renewable Energy Powered LoRa-based IoT Multi Sensor Node

Adrian I. Petrariu, Stefan cel Mare University of Suceava; Alexandru Lavric, Stefan cel Mare University of Suceava; Eugen Coca, Stefan cel Mare University of Suceava

P1.11 Enhanced Stack-up for EMC, SI and PI in Mixed-Signal Systems

Radu George G Voina, Technical University of Cluj Napoca; Viman Liviu, Technical University of Cluj Napoca; Dan Pitica, Technical University of Cluj Napoca

P1.12 A System for Measurement of the Asymmetry between Left and Right Shoulders

Boris I Evstatiev, University of Ruse Angel Kanchev; Iskra Ilieva, University of Ruse Angel Kanchev; Asen Asenov, University of Ruse Angel Kanchev; Emil H Yankov, University of Ruse

P1.13 Implementation of a prototype air quality measurement system using MEMS sensors

Moise M Vasile Madalin, UPB-CETTI; Paul Svasta, UPB-CETTI; Laurențiu Ionescu, University of Pitești

P1.14 Pedestrian Presence Detection System Based on Image Processing

Toncho Balbuzanov, University of Ruse Angel Kanchev; Boris I Evstatiev, University of Ruse Angel Kanchev

P1.15 An ECG-Based Authentication Scheme for Body Area Networks

Liliana I IVANCIU, Technical University of Cluj-Napoca

P1.16 Study of Modification of Conductive Adhesive by Nanoparticles and Aging of Modified Adhesive

Pavel Mach, Czech Technical University in Prague

P1.17 Triaxial Vibrating – Wire Transducer Implementation and Measurements

Vlad Bande, Technical University Cluj Napoca; Septimiu Pop, Technical University Cluj Napoca

P1.18 Analysis of positioning errors for LED

Adrian Mocan, Technical University of Cluj-Napoca; Ioan Ciascai, Technical University of Cluj-Napoca

P1.19 Digital Processing Method used to Improve the Frequency Measurement Accuracy for Vibrating-Wire Transducers

Septimiu Pop, Technical University Cluj Napoca; Vlad Bande, Technical University Cluj Napoca

P1.20 Education 4.0 – Jump to Innovation IoT in Higher Education

Monica Ciolacu, TH Deggendorf & UPB CETTI; Leon Binder, THD; Paul Svasta, UPB-CETTI; Ioan Tache, University Politehnica of Bucharest; Dan Stoichescu, University Politehnica of Bucharest

P1.21 Application of More-level Stress on Conductive Adhesive Joints

Pavel Mach, Czech Technical University in Prague

P1.22 Electronic Module for Carbon Monoxide Monitoring and Warning

Alin Șerban, University Politehnica of Bucharest; Cristina Marghescu, UPB-CETTI; Andrei DRUMEA, University Politehnica of Bucharest

P1.23 Electromagnetic energy harvester

Ismet Porobic, Universitatea Politehnica Timisoara; Aurel Gontean, Politehnica Univ. Timisoara

P1.24 Component Scaling during Explicit Modelling of Heat Transfer during Vapour Phase Reflow Soldering

Attila Géczy, BME-ETT; Daniel Straubinger, BME-ETT; Istvan Bozsoki, BME-ETT

P1.25 Application of Active Learning Methods in the Course "Digital Electronics" in the Topic Digital Comparators Using FPGA Design

Adriana N. Borodzhieva, University of Ruse; Iordan Stoev, University of Ruse; Valentin Mutkov, University of Ruse

P1.26 FPGA Implementation of Boolean Functions Using Decoders and Logic Gates

Adriana N. Borodzhieva, University of Ruse; Iordan Stoev, University of Ruse; Valentin Mutkov, University of Ruse

P1.27 Controlling the Temperature and Humidity in a Greenhouse

Gaudentiu Varzaru, Syswin Solutions; Adrian Zarnescu, SYSWIN Solutions; Razvan Ungurelu, SYSWIN Solutions

P1.28 Humidity Sensing System Using Plastic Optical Fiber

Lorant A Szolga, Technical University of Cluj-Napoca

P1.29 Development of a Thermal Camera Using a Low Noise High Speed Far Infrared Sensor

Lorant A Szolga, Technical University of Cluj-Napoca

P1.30 ESTABLISH: A smart health platform for enhancing the quality of life

George Suciu, BEIA Consult & University Politehnica of Bucharest; Mihaela Balanescu, BEIA Consult International

P1.31 IoT Solution for Plant Monitoring in Smart Agriculture

Cristina Balaceanu, BEIA Consult & University Politehnica of Bucharest; George Suciu, BEIA Consult & University Politehnica of Bucharest; Ioana Marcu, University Politehnica of Bucharest; Ana-Maria Dragulinescu, University Politehnica of Bucharest; Marius Dobrea, BEIA Consult & University Politehnica of Bucharest

P1.32 Electrically Conductive Paste Printed Volume Influence on Bonds Properties

Mihai Branzei, University POLITEHNICA of Bucharest; Gaudentiu Varzaru, Syswin Solutions; Marian Vladescu, UPB-CCO; Bogdan Mihailescu, UPB-CETTI; Ioan Plotog, UPB-CETTI

P1.33 Energy Harvesting Wireless Sensor Nodes with Augmented Reality Application Support

Octavian Coca, Technical University of Cluj-Napoca; Alexandra Fodor, Technical University of Cluj-Napoca

P1.34 Software-in-the-Loop System for Motor Control Algorithms

Marius-Alexandru Taut, Technical University of Cluj-Napoca; Marius Taut, Technical Univeristy of Cluj-Napoca

P1.35 Algorithm and model for a fixed Sun position detection system

Gabriel I Bonteanu, Gheorghe Asachi Technical University of Iasi; Radu Bozomitu, Gheorghe Asachi Technical University of Iasi

Friday, October 25

09:00 – 11:00 Poster Session 2 (Start with a pitching session*)

* Each author must deliver a maximum 3 minutes slide show presentation of her/his work.

Session Chair: Olivér KRAMMER, Budapest University of Technology and Economics, Hungary

Session Co-Chair: Boris EVSTATIEV, University of Ruse Angel Kanchev, Bulgaria

P2.1 Protecting the Secrets: Advanced Technique for Active Tamper Detection Systems

Daniel-Ciprian Vasile, UPB-CETTI; Paul Svasta, UPB-CETTI

P2.2 Influence of Manchester encoding over spreading codes used in multiple access techniques for IoT purposes

Badea C Alexandru, University Politehnica of Bucharest; Madalina G Berceanu, University Politehnica of Bucharest; Simona Halunga, University Politehnica of Bucharest; Găină Mihai, University Politehnica of Bucharest; Capota Cristian, University Politehnica of Bucharest; Eugen Stancu, University Politehnica of Bucharest

P2.3 Embedded RTOS for a Smart RFID Reader

Mihai Daraban, Technical University of Cluj-Napoca; Cosmina Corches, Technical University of Cluj-Napoca

P2.4 Opportunities of using artificial intelligence in hardware verification

Alexandru Dinu, Transilvania University from Brasov; Petre Ogruțan, Transilvania University of Brașov

P2.5 Pests detection system for agricultural crops using intelligent image analysis

Laurențiu Ionescu, University of Pitești; Alin Gheorghita Mazare, University of Pitești

P2.6 The Creation Process of a Secure and Private Mobile Web Browser with no Ads and no Popups

Roland Szabo, Politehnica University Timisoara; Aurel Gontean, Politehnica University Timisoara

P2.7 System on Chip Implementation of a Fuzzy Logic Based Autonomous Robot Navigation System

Liviu Tigaeru, Gheorghe Asachi Technical University of Iasi

P2.8 Towards real time vehicle counting using Tiny Yolo and fast motion estimation

Gabriel Oltean, Technical University of Cluj-Napoca

P2.9 Preventing the Temperature Side Channel Attacks on Security Circuits

Daniel-Ciprian Vasile, UPB-CETTI; Paul Svasta, UPB-CETTI; Mihaela Pantazica, UPB-CETTI

P2.10 Personal Assistant Based on Internet of Things

Alin Grama, Technical University of Cluj-Napoca; Dorin M Petreus, Technical University of Cluj-Napoca; Beniamin Bia, Technical University of Cluj-Napoca; Octavian Coca, Technical University of Cluj-Napoca; Gabriel Petrasuc, Technical University of Cluj-Napoca; Vlad Socaciu, Technical University of Cluj-Napoca; Elena-Mirela Stetco, Technical University of Cluj-Napoca

P2.11 Intelligent monitoring and analysis system of soil moisture parameters and trunk diameter used in fruit tree culture

Laurențiu Ionescu, University of Pitești; Alin Gheorghita Mazare, University of Pitesti

P2.12 Video Surveillance using YOLO: Pedestrian Detection and Behaviour Characterization

Gabriel Oltean, Technical University of Cluj-Napoca

P2.13 A New Pupil Detection Algorithm Based on Circular Hough Transform Approaches

Petronela I Bonteanu, Gheorghe Asachi Technical University of Iasi; Arcadie Cracan, Gheorghe Asachi Technical University of Iasi; Radu Gabriel Bozomitu, Gheorghe Asachi Technical University of Iasi; Gabriel I Bonteanu, Gheorghe Asachi Technical University of Iasi

P2.14 A High Detection Rate Pupil Detection Algorithm Based on Contour Circularity Evaluation

Petronela I Bonteanu, Gheorghe Asachi Technical University of Iasi; Arcadie Cracan, Gheorghe Asachi Technical University of Iasi; Radu Gabriel Bozomitu, Gheorghe Asachi Technical University of Iasi; Gabriel I Bonteanu, Technical University of Iasi

P2.15 Voltage software optimization control for constant frequency commutation of a BLDC sensorless motor

Bogdan Dumitrascu, Dunarea de Jos University of Galati; Mihaela Andrei, Dunarea de Jos University of Galati; Nistor Nicusor, Dunarea de Jos University of Galati

P2.16 Extended Current Range of Active Balancing and Monitoring Circuits for Supercapacitor Modules

Ciprian Ionescu, UPB-CETTI; Andrei DRUMEA, Politehnica University Bucharest

P2.17 Design and implementation of a power management system with IoT features

Adrian I. Pop, Technical University Cluj Napoca, North University Center of Baia Mare

P2.18 Analysis of activity detection data pre-processing

Anca Alexan, Technical University of Cluj-Napoca; Alexandru Alexan, Technical University of Cluj-Napoca; Stefan Oniga, Technical University of Cluj-Napoca, North University Center of Baia Mare; Iuliu-Alexandru Pap, Technical University of Cluj-Napoca, North University Center of Baia Mare

P2.19 Determining the duration of execution of some functions and algorithms for the Arduino Uno platform

Sabou Sebastian, Technical University of Cluj Napoca North University Center of Baia Mare; Claudiu Lung, Technical University of Cluj Napoca North University Center of Baia Mare

P2.20 Optimization of a Domestic Microcontroller Application that Operates with Long Standby Time Intervals

Mihaela Andrei, Dunarea de Jos University of Galati; Radu C. V. Belea, Dunarea de Jos University of Galati; Nistor Nicusor, Dunarea de Jos University of Galati

P2.21 Method for Detecting Resonance Frequency in Induction Heating Systems

Ana Cristina Davidas, Technical University of Cluj-Napoca; Ovidiu A. Pop, Technical University of Cluj-Napoca

P2.22 Skin anomaly detection using classification algorithms

Andrei Daniel Andronescu, University POLITEHNICA of Bucharest; Dumitru Iulian Nastac, University POLITEHNICA of Bucharest

P2.23 Analysis of Real Time Corrections for a Global Navigation Satellite System Ground Station

Costel Cherciu, University POLITEHNICA of Bucharest; Dumitru Iulian Nastac, University POLITEHNICA of Bucharest; Paul Svasta, UPB-CETTI

Friday, October 25

15:00 - 17:30 Poster Session 3 (Start with a pitching session*)

* Each author must deliver a maximum 3 minutes slide show presentation of her/his work.

Session Chair: Detlef BONFERT, Fraunhofer EMFT, Munich, Germany

Session Co-Chair: Ciprian IONESCU, University Politehnica of Bucharest, Romania

P3.1 Interlaboratory Comparison of Conducted Emissions in Automotive EMC

Adrian-Petru Buta, Politehnica University Timisoara; Andrei Marius Silaghi, Politehnica University Timisoara; Aldo De Sabata, Politehnica University Timisoara

P3.2 Hydrodynamic Characteristic Studies of Underwater ROV. ANSYS – Fluent Simulation

Mihaela Hnatiuc, Maritime University of Constanta; Khaled Chetehouna, INSA Centre val de Loire; Adrian Sabau, Constanta Maritime University

P3.3 Automated Thermal Images Processing System for Change Detection and Diagnosis

Sorin Marius Pavel, Dunarea de Jos University of Galati; Dorel Aiordachioaie, Dunarea de Jos University of Galati; Laurentiu Frangu, Dunarea de Jos University of Galati

P3.4 Design of Solar Monitoring Tracking System

Seher Kadirova, University of Ruse

P3.5 Smart Monitoring System for Reflow Soldering Equipment

Nistor Daniel Trip, University of Oradea; Adrian Burca, University of Oradea; Dorin Sabau, University of Oradea; Cornelia Gordan, University of Oradea; Lucian Morgos, University of Oradea

P3.6 Design of Regenerative Active Clamping Snubber for Phase-Shift Converter

Izsák F Ferencz, Technical University of Cluj-Napoca; Dorin M Petreus, Technical University of Cluj-Napoca

P3.7 A Gradient-based Sensitivity Analysis Method for Complex Systems

Ingrid Kovacs, Technical University of Cluj-Napoca

P3.8 The performance of an uplink Massive MIMO OFDM-based multiuser system with LDPC coding when using relays

Madalina G Berceanu, University Politehnica of Bucharest; Carmen Voicu, University Politehnica of Bucharest; Simona Halunga, University Politehnica of Bucharest

P3.9 Effect of Large SMDs on Tombstoning during Vapour Phase Reflow Soldering

Attila Géczy, BME-ETT; Dániel Szalmási, BME-ETT; Balázs Illés, BME-ETT

P3.10 Effects of Excitation Waveform on Developing Planar Core Transformers

Constantin Ropoteanu, UPB-CETTI

P3.11 Real-Time Scheduling for an Islanded Microgrid

Andreea Ignat, Technical University of Cluj-Napoca; Eniko Lazar, Technical University of Cluj-Napoca; Dorin M Petreus, Technical University of Cluj-Napoca

P3.12 Thermal Model for LED Luminaire

Niculina I Badalan, UPB-CETTI; Paul Svasta, UPB-CETTI; Cristina Marghescu, UPB-CETTI

P3.13 Monitoring current variation using pattern recognition algorithm implemented in automotive dc driving servomechanism

Nistor Nicusor, Dunarea de Jos University of Galati; Baicu Laurentiu, Dunarea de Jos University of Galati; Bogdan Dumitrascu, Dunarea de Jos University of Galati

P3.14 Reliability Calculation Method for Output Capacitor Bank used in Telecom Power Supplies

Dan Butnicu, Technical University of Iasi; Dorin Neacsu, Technical University of Iasi; Cristian Neacsu, Technical University of Iasi

P3.15 Powering a low power consumer through fiber optic

Andreea Costache, Politehnica University of Bucharest

P3.16 Characterization of the V-Model Approach in Thermal Design Process

Alexandra Fodor, Technical University of Cluj-Napoca

P3.17 Fuzzy logic based fault detection and diagnosis: an automated design methodology

Emilia SIPOS, Technical University of Cluj-Napoca; Laura Ivanciu, Technical University of Cluj-Napoca

P3.18 Failure detection on PCBs: an image processing based approach

Emilia SIPOS, Technical University of Cluj-Napoca; Alexandra Ones, Technical University of Cluj-Napoca; Groza Robert, Technical University of Cluj Napoca

P3.19 Review of Efficiency Losses and Limitations of Schottky Diodes in Microwave Energy Harvesting Rectifiers

Ismet Porobic, University POLITEHNICA of Timisoara; Aurel Gontean, University POLITEHNICA of Timisoara

P3.20 The generation of random numbers using the quantum tunnel effect in transistors

Paul-Vasile Vezetueu, University POLITEHNICA of Bucharest; Popescu C Iulia Ileana, University Politehnica of Bucharest; Dumitru Iulian Nastac, University POLITEHNICA of Bucharest

P3.21 Avoiding Expensive Specialized Equipment in Testing the Stability of a Buck Converter Using Time Domain Analysis

Dan Butnicu, Technical University of Iasi; Camelia Lazăr, Institute of Computer Science, Romanian Academy-Iasi Branch Iasi, Romania

P3.22 Analysis of Current Carrying Capability of Graphene-Enhanced Conductive Polylactic Acid Based Filaments for 3D-Printing

Cristina Marghescu, UPB-CETTI; Andrei DRUMEA, University Politehnica of Bucharest; Mihaela Pantazica, UPB-CETTI

P3.23 Parametric Filter Design for Conducted Emissions

Aurelian Kotlar, Continental Automotive; Florin Berinde, Continental Powertrain Engineering

P3.24 Polarity Determination of Electrolytic Capacitors in Power Supplies from external terminals

Albert Fazakas, Technical University of Cluj-Napoca; Marius Purcar, Technical University of Cluj-Napoca; Denisa Violets Turcu, TUCNS

P3.25 INTRUSIONS AND THEIR LOCK IN DATA COMMUNICATIONS THROUGH INTERNET

Alexandru Vasile, UPB-CETTI; Irina Bacis, Vasile, UPB-CETTI

P3.26 Metrological Assessment of an Electronic System for Monitoring the Geometrical Parameters of Cylindrical Profiles

Snezhinka Zaharieva, University of Ruse; Adriana N. Borodzhieva, University of Ruse; Valentin Mutkov, University of Ruse

P3.27 TIC-TAC Based Live Acoustic Watermarking with Improved Forgery Detection Performances

Robert A Dobre, University Politehnica of Bucharest; Alina E Marcu, University Politehnica of Bucharest; Radu Ovidiu Preda, University Politehnica of Bucharest

P3.28 Test Bench for Electrical and Performance Evaluation of Lithium-Ion Batteries

Adelina Ilies, Technical University of Cluj-Napoca



Analog Devices. Ahead of What's Possible

Analog Devices is a global leader on the semiconductor market enabling technology breakthroughs in industrial, automotive and consumer applications.

Analog Devices Romania is developing state of the art products and reference designs using the latest technologies from ADI and other partner companies such as the MathWorks, Xilinx and Intel. These are a few of the areas that we are focusing on:

Data acquisition systems accurately capture the signals generated by electronic devices and sensors for real-time processing, hardware-in-the-loop simulation, automated test, and data logging. We offer full-stack support (hardware to application) for a wide array of data acquisition system solutions for different form factors and sensor interfaces, including: High-resolution ADCs for precision signal acquisition, High-speed pipelined ADCs suitable for use in waveform digitizers, Precision DACs and direct-digital synthesizers for analog outputs and signal generation.

More info: <https://www.analog.com/en/applications/markets/instrumentation-and-measurement-pavilion-home.html>

The Active Learning Program is a platform where Analog Devices, working with leading educational institutions has created and deployed new hands on learning tools for the next generation of analog circuit design engineers. The program consists in educational boards (**ADALM1000**, **ADALM2000**, **ADALM-PLUTO**), free electronics labs, textbooks and other education materials. More info: <https://wiki.analog.com/university>

Software Defined Radio is one of the fastest growing fields in the communications industry due to the technological advances in FPGAs and transceivers. With a wide portfolio of solutions, ranging from evaluation and prototyping transceiver boards to complete Systems on Module ready to be integrated in cell towers, base stations and high performance wireless communication products, Analog Devices is pushing the limits of wireless communication to a new era. More info: <https://www.analog.com/en/applications/technology/sdr-radioverse-pavilion-home.html>

3D Sensing is a new technology enabling intelligent systems to see the world around them and have the sense of depth. It is employed in a wide variety of applications ranging from autonomous robots, mobile phones for facial recognition or augmented reality, surveillance and monitoring. The depth sensing prototyping platforms from Analog Devices, showcasing 3D Time of Flight and LiDAR, enable industrial, automotive and consumer customers to integrate faster and more efficiently this technology into their end products.

More info: <https://www.analog.com/en/applications/technology/3d-time-of-flight.html>





ARC Braşov

Built and developed the ARC Braşov company from scratch, since 1990. This longevity means good stability for our clients and suppliers, in a world where prestigious reports are showing a decreasing average lifespan pointing to 15 years.

As a distribution company for test and measurement equipment, ARC Braşov represents more than 30 leading brand names, all front-runners in their domain. Meaning that:

- Our suppliers enjoy brand awareness, market share, recognition, and of course sales.
- Our clients enjoy the very best equipment, gaining competitive advantages through the highest ROI and the lowest TCO.

Built and nurtured as a lifelong learning organization, ARC Braşov deploys the best trained professional force in the industry. Thirty people on the permanent move, sharing good knowledge with their clients, advocating our partners' brands, connecting and building valuable mutual relationships. It is all about adding meaning and significance, about enriching experiences for all of us: our clients, our suppliers, our ARC Braşov team.

At ARC Braşov, we develop.

- Starting with the already traditional for us energetic and electrical sectors, we expanded to 8 distinct segments, including food, medical, telecom.
- Starting with the test and measurement distribution, we developed to Metrology (the best-equipped laboratory in the country, reliable Service, and high-quality Training (e.g. the coveted Level One Infrared Thermography Certification
- Starting with the freestanding equipment, we developed to high-tech, unique customized solutions.



Teledyne LeCroy is a leading provider of oscilloscopes, protocol analyzers and related test and measurement solutions that enable companies across a wide range of industries to design and test electronic devices of all types. Since our founding in 1964, we have focused on creating products that improve productivity by helping engineers resolve design issues faster and more effectively.

Our oscilloscopes offer a powerful combination of large and informative displays combined with advanced waveshape analysis capabilities typically tailored to enhance the productivity of engineers in specific applications areas such as serial data test, disk drive test and automotive bus analysis.





Bosch Engineering Center Cluj



Bosch Engineering Center Cluj was founded as an integral part of the Bosch worldwide engineering network in 2013. The Center is located partly in the heart of Cluj-Napoca and partly in Jucu. Our engineers give great importance to continuous innovation and they work on state-of-the-art technology projects. Automated Driving, Electric and Connected Mobility, Internet of Things are just a few examples from the Bosch Engineering Center Cluj's current portfolio. We work in close collaboration with other Bosch R&D Centers and the Bosch Plant from Jucu, we specialize in software engineering, hardware and mechanical engineering, quality validation, analysis & reliability engineering, but also sales planning.

As a synergic part of Bosch Engineering Center Cluj, the Hardware and Mechanics Department offers engineering services in the areas of mechanical, PCB and hardware design for both local and international costumers. The team aims at excellency in product design by making use of Bosch's high-standard, well-equipped, modern laboratories, state-of-the-art technologies, local reliability testing and manufacturing facilities.





Bd. Stirbei Voda Nr. 19 A
Bl. D4A, sc. 1, apt. 7
Craiova, Dolj, Romania

Phone: +40 351 176969
Email: office@caelynx.ro
Web: www.caelynx.ro

Caelynx Europe ofera servicii de inginerie 3D, consultanta tehnica, proiectare si analiza CAE in domeniile auto, aerospacial, energie, aparare, medicina.



Parteneri Dassault Systèmes:

Caelynx Europe este unic distribuitor autorizat al produselor Dassault Systèmes's SIMULIA in Romania si Bulgaria.

- **CST** - simulare Electromagnetica
- **ABAQUS** - unul din produsele de baza din portofoliul SIMULIA, este recunoscut ca fiind unul dintre cele mai avansate softuri de analiza cu elemente finite.
- **Isight** - solutie de automatizare si optimizare a simularii de produs
- **Tosca** -solutie de optimizare a produsului
- **FE Safe**- solutie calcul de oboseala si durabilitate
- **3D Experience**
- **Centru autorizat de formare.**

Servicii FEA:

- **FEA (Analiza de element finit):** analize termice si structurale, vibratii si acustica (NVH), multi-body dynamics, impact, oboseala, etc.
- **CFD (Dinamica fluidelor):** capacitate completa (curgeri in regim stationar si nestationar, modele turbulente, aerodinamica), inclusiv interactiunea structurii cu fluidul.
- **Simulare injectie mase plastice**
- **Design:** piese turnate, materiale plastice, mecanisme, asamblari
- **Aerodinamica:** calculul aripii de avion, predictie coeficient portanta si drag, flutter, stabilitate
- **Analiza la grup motopropulsor:** motoare cu ardere interna, transmisii, generatoare.
- **Optimizare:** optimizare neliniara avand variabile cu forme complexe.
- **Analiza la impact:** analiza de impact conform regulamentelor si directivelor europene, cinematica ocupantilor, impactul cu pasarea.
- **Caracterizarea materialelor:** compozite, hiperelastice, fracturarea metalelor





Continental. The Future in Motion.

As one of the leading global automotive manufacturer we have hundreds of projects going on simultaneously, these are just a few of them:

- › **AllCharge** is a superfast wireless and cable charger that can charge your car as fast as vehicles with internal combustion engines. In addition, AllCharge enables you to connect any electronic device to your car to charge it, even an entire house in a power outage situation.
- › **Speakerless Audio System** replaces conventional speakers with actuators, which create a high-quality 3D audio experience by vibrating certain surfaces inside the vehicle.
- › **Wireless Key PASE system**, which allows drivers to open the doors without the need for keys. All they need to do is to approach the vehicle with a smartphone or a wearable device, such as a smart watch or ring, and the car will be opened by a virtual key.
- › **Artificial intelligence** used by Continental turns the entire vehicle into a digital companion that remembers and interprets the user's behavior, adapts navigation or infotainment offers and even anticipates the wishes of the driver. To enable a natural conversation between the driver and the vehicle, Amazon's cloud-based voice service, Alexa, has been linked to several vehicles.



For more details and how to join our team,
 visit www.romania.careers-continental.com
 or give us a follow on www.facebook.com/RomaniaContinental.



SC INTELIGENT CONVERGENT SOLUTIONS SRL

General information

Established in 2005, SC INTELIGENT CONVERGENT SOLUTIONS SRL is a Romanian company with private capital, which carries out its main activity in the field of lighting production and marketing using LED technology and energy production using photovoltaic power plants.

SC INTELIGENT CONVERGENT SOLUTIONS SRL develops in four fields of activity:

1. SMART ENERGY- energy production with intelligent photovoltaic systems
2. SMART CITY LIGHT - production of LED luminaires for indoor and outdoor lighting
3. SMART METERING - the intelligent system for measuring consumption
4. SMART SERVICES - system maintenance as well as their service.

The company finished one european funded project regarding “The Establishment of an innovative production process at Intelligent Convergent Solutions Company” and has another one undergoing, “The Acquisition of LED module factory”, building the first LED module factory in Romania.

SC INTELIGENT CONVERGENT SOLUTIONS SRL intends for 2020 to expand nationally and internationally by implementing energy generation solutions through photovoltaic systems as well as LED lighting systems by establishing partnerships with local authorities and ensuring them maintenance.

The company SC INTELIGENT CONVERGENT SOLUTIONS SRL has already concluded a series of contracts with the local authorities, the feedback being extremely positive.

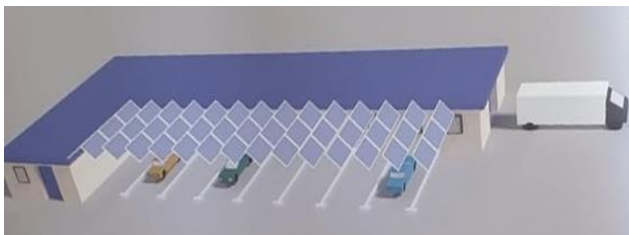
SC INTELIGENT CONVERGENT SOLUTIONS SRL

Representative

Mr. Ionita Teodor Cristian

As General Manager

cristi.ionita@intelligentsolutions.ro





Miele Tehnica Braşov is a subsidiary of Miele & Cie. KG, Germany. It was established in 2009 as a second electronics factory in the group, after the plant in Gütersloh.

The Miele plant in Braşov currently has 300 employees and produces electronic components for a wide range of Miele appliances, such as washing machines, tumble dryers, vacuum cleaners, ovens and others. The products Miele offers to its customers set the standards for durability, performance, ease of use, energy efficiency, design and service products.

In August 2015, in Braşov, a software development division was created. Within this new division the software for a wide variety of Miele appliances is developed.

The facility in Braşov is equipped with state-of-the-art technology and all quality requirements are respected according to the Miele Group's standards. This fact is acknowledged by all the certifications currently in place: ISO 9001, ISO 14001, ISO 50001, OHSAS 18001 and SA 8000.



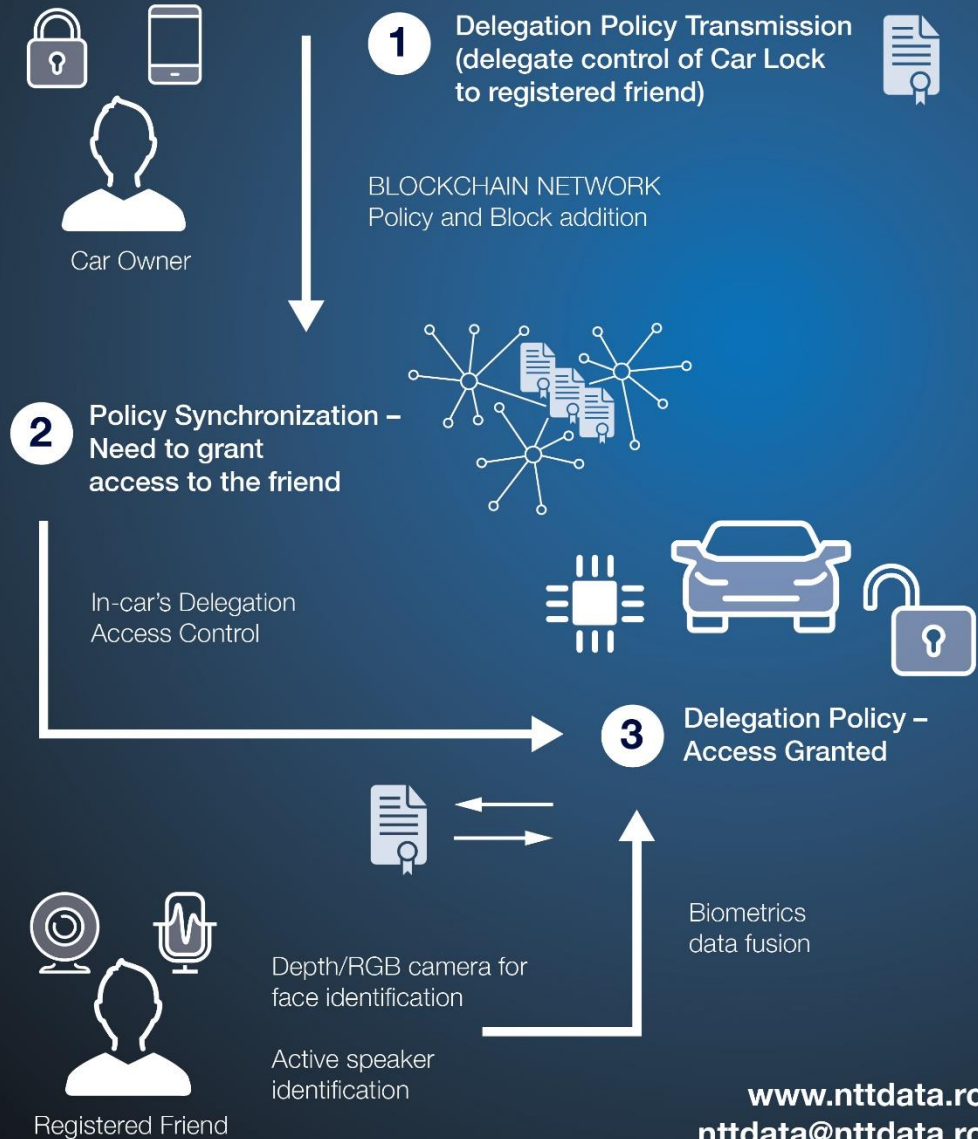
Address: No.1 Carl Miele Street, 507065 Feldioara, Braşov, Romania

Phone: 0040-372-217800, Fax: 0040-372-217810

Email: office@miele.com, recrutare@miele.com

IN-CAR DELEGATION ACCESS CONTROL

Based on Facial & Voice Recognition





Established in 1998, **RomTek Electronics SRL** is a Romanian privately owned company specialized in providing equipment, solutions and engineering services for the areas of **Test & Measurement and Educational Training Platforms (T&M - ETP)**, **Telecommunications (Telecom)**, and **Audio|Video|TV|Film (A|V|TV|F)**.

The company offers:

- consulting services
- application engineering support
- system design
- project management
- equipment supply
- equipment/system installation
- training
- service & maintenance, calibration, metrological checks and certifications

Test & Measurement and Educational Training Platforms

Addressing all industries and applications that use T&M equipment/systems for the electrical and electro-optical domains, **RomTek** provides a comprehensive portfolio of products ranging from the simplest tools up to complex, integrated, systems enabling the recording, processing and interpretation of the measured results. The value of **RomTek**'s solutions comes not only from the quality and diversity of the offered products but also from their association with a full range of services to ensure the maximization of technical and financial performance over the longest possible time of operation.

Telecommunications

In the field of telecommunications **RomTek** offers complete solutions for encoding, transcoding/transrating, aggregation, switching, transport and delivery of digital content (video/voice/data covering all segments of a network from the "backbone" level (wireless or wireline up to the terminal equipment installed at end-users' sites (modems, MTAs, STBs, satellite receivers. Particular attention has been given to wireless communications (4/5G, WiMAX, Wi-Fi, OFDM links and particularly to mobile communications as well as to the distribution of digital content over IP (Voice & Video over IP, including IPTV).

Audio/Video/TV/Film

Regardless of the type of production (audio, video, TV or film, or whether it involves the simplest equipment or the most sophisticated system (production studios, integrated digital systems for the production and transmission of TV programs, DI systems, restoration systems, DSNGs, OB vans or even airborne production systems, **RomTek** has always the solution that offers the most appropriate features and the fastest ROI.

RomTek's activity is certified for compliance with the following international standards:

- ISO 9001:2008 – Quality Management Standard
- ISO 140 01:2004 – Environmental Management Standard
- OHSAS 18001 – Health and Safety Standard.

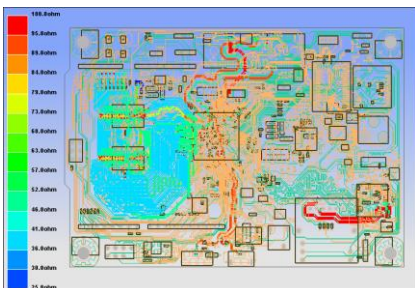
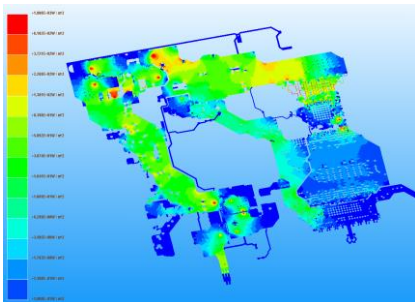
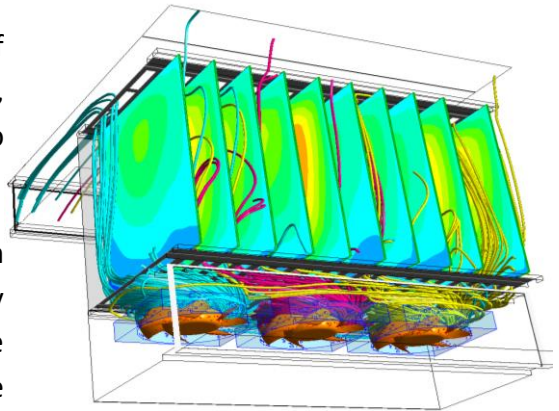




TENSOR is a Romanian company which pioneered introducing more than 20 years ago, software tools for numerical simulation.

TENSOR helped creating a community of simulation engineers in Romania, bringing the Romanian industry close to Academia.

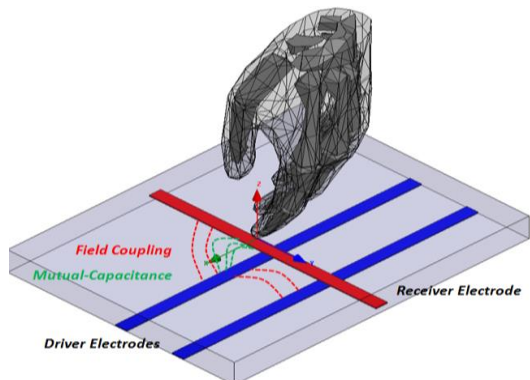
Numerical simulation has proven countless times its usefulness by contributing to new product launch time shortening, identification of failure causes and consequences, checking the behavior under thermal or structural stress, electromagnetic interference and electromagnetic compatibility. **TENSOR** expertise spans from structural and CFD analysis to electronic devices virtual verification and testing.



www.tensor.ro

office@tensor.ro

021-444.23.78; 0744.310.929



SMARTI

PNIII - CLUSTER INOVATIV



Unitatea Executivă pentru
Finanțarea Învățământului Superior,
a Cercetării, Dezvoltării și Inovării

ELINCLUS ELectronic INnovation CLUSter

EMC: Association for Promoting Electronics Technology – APTE (www.apte.org.ro)

Founded 2011; 83 registered members

President: Prof.DHC. mult. Paul SVASTA, Ph.D.

Executive Manager: Lect. Eng. Bogdan Mihăilescu, Ph.D.



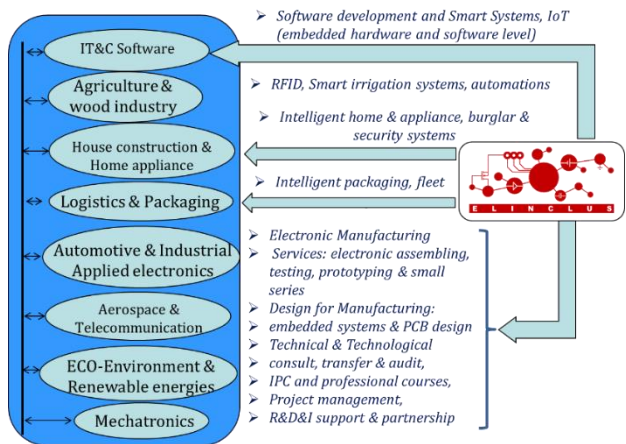
Founding member of the Clusters Association from Romania, CLUSTERO - www.clustero.eu

• European Cluster Excellence Initiative Silver Label Certificate from ESCA since 2016

• Member of Adriatic Danube Mechatronics Cluster Network

• International collaboration with Mecatech Cluster Wallonie and Wallonie Export Agency

• International collaboration with Omnipack Cluster Hungary (<http://omnipack.hu/>)



E-mail: elinclus@elinclus.ro **Web page:** www.elinclus.ro

SMARTI project:

Managerial Structure for a Robust, Technological and Innovative Environment
The overall objective of the SMARTI project, namely to increase the capacity for innovation and the competitiveness of ELINCLUS cluster members, especially SMEs is in perfect harmony with the National Strategy for Research, Development and Innovation 2014-2020, with The Danube Strategy, the Europe 2020 Strategy and the National Competitiveness Strategy 2014-2020.



**IEEE
ELECTRONICS
PACKAGING
SOCIETY**



**JOIN TODAY!
EPS.IEEE.ORG**

Enjoy the Many Benefits of IEEE EPS Membership

- Informative, Educational Conferences
- Career Development Tools
- Access to the latest technical information
- Networking opportunities
- Prestigious Awards and Recognition



**IEEE
HU & RO
JOINT CHAPTER**

ASSOCIATION FOR PROMOTING ELECTRONICS TECHNOLOGY (ASOCIAȚIA PENTRU PROMOVAREA TEHNOLOGIEI ELECTRONICE) IMAPS ROMANIA

APTE



A globally-competitive workforce with theoretical, as well as applied engineering/hands-on, education must be trained. In addition to the areas of science, engineering, microelectronics, and packaging, this training must encompass the broader areas of business, economics, ethics, foreign culture, and languages.

The Association for Promoting Electronics Technology (APTE, see <https://apte.org.ro/>) is IMAPS Romania. APTE was founded in 2002, by the Center for Technological Electronics and Interconnection Techniques (UPB-CETTI) together with highly respected members of the electronics industry, in order to support the electronics packaging education and engineering, in a climate of trust, ethics, and social responsibility.

APTE/IMAPS Romania is the management entity of the ELINCLUS Cluster (see <http://elinclus.ro/>), which has currently 88 members. ELINCLUS was established starting from the economic relationship existing between UPB-CETTI (which developed a Technological and Business Incubator, entity accredited by the National Innovation and Technology Transfer Network – ReNITT) and companies from Bucharest and Ilfov county. This structure has offered to ELINCLUS the status of a regional cluster in the field of electronics.

APTE offers annually a comprehensive set of short courses and training classes in the area of electronics packaging, IPC standards certification, management, and industrial development, in order to serve the needs of the electronics industry. APTE organises annually The International Symposium for Design and Technology in Electronics Packaging (SIITME, see <http://siitme.ro/>) and the Interconnection Techniques in Electronics (TIE, see www.tie.ro/) Professional Student Design Contest.



Contact:

27-29 Callimachi Street
023496 - Bucharest, Romania

Phone: +40213169633
E-mail: apte@apte.org.ro



IEEE-EPS Student Branch Chapter University Politehnica of Bucharest



www.ieee-upb.org

“We have decided to be the change that we want to see in the world.

Our vision encompasses the collaboration between professors, professionals and students alike and we aim to drive the future of technology by improving the quality of education.”



Visit us:
www.ieee-upb.org
facebook.com/ieee-upb
v.irciuc@ieee.org
valentina.dumitrascu@ieee.org
cristina.lepadatu@ieee.org



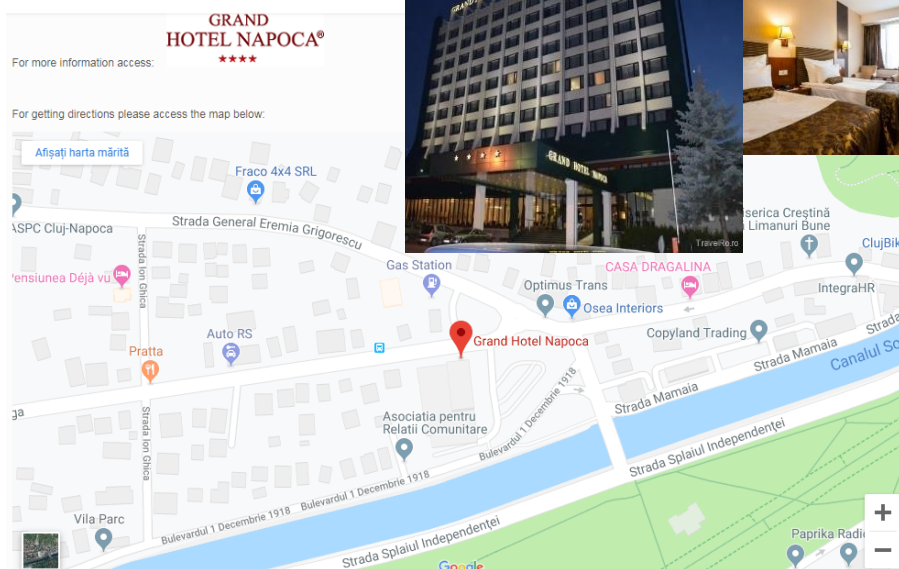
Location:

The conference and exhibition takes place at:

GRAND HOTEL NAPOCA,

Strada Octavian Goga 1, Cluj-Napoca 400698, Romania

(see the map below.)



The Registration is at:

GRAND HOTEL NAPOCA, Strada Octavian Goga 1, Cluj-Napoca

For more information and access: <http://hotelnapoca.ro/>

CONTACT INFORMATION

Registration Officer:

Delia Lepădatu
0040.769.247.904

Travel Advisor:

Diana Bolca
0040.722.443.755

Multimedia:

Bogdan Mihăilescu
0040.723.077.221

Pitești welcomes SIITME Conference 2020!

The 26th International Symposium for Design and Technology of Electronics Packages will take place in Pitești, a beautiful town in south of Romania at only approximately 110 Km of Bucharest, in **21-24th October 2020**.



Pitești, residence of Argeș district, is situated in the south-center part of Romania, between Meridional Carpathians Mountains and Danube. The distance from Pitești to Bucharest, the capital of the country is of 120 km. Pitești is situated at the cross point of 44.853409 North latitude parallel to 24.836216 East longitude meridian.



The SIITME 2020 Conference will be located in the Cornul Vânătorului Complex placed in a very nice oak forest, at address Str. Trivale 75, Pitești 110072.

SIITME is a high quality European conference for the exchange of experience between senior and young scientists.

The modality of presentations is based on a unique combination of oral and poster as well as individual meetings.



The primary goal of the Conference is to provide an international forum for dissemination of knowledge and scientific results relating to research in the field of emerging topics in advanced packaging, Microsystems, electronic technology.

The presented papers are published in the Conference proceeding and also are indexed in the international data bases.



See you at SIITME 2020 in Pitești, 21-24th Oct. 2020!

Industrial Partners:

