ELECTRONIC INDUSTRY WEEK

CENTRAL AND SOUTH EASTERN EUROPE

25th – 30th October 2021

– a Cyberspace event –

THE ELECTRONICS PACKAGING COMMUNITY

- THE AUTUMN CONVENTION -

Education
Training
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Welcome to ELECTRONIC WEEK 2021

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ELECTRONIC INDUSTRY WEEK

CENTRAL AND SOUTH EASTERN EUROPE

INTERCONNECTION TECHNIQUES IN ELECTRONICS (TIE)

PROFESSIONAL STUDENT CONTEST

A WAY to turn your hobby into PROFESSION

The 30th Edition, 25th – 26th October 2021

INTERNATIONAL SYMPOSIUM FOR DESIGN AND TECHNOLOGY IN ELECTRONICS PACKAGING

Conference & Exhibition

The 27th Edition, 27th – 30th October 2021

Online/Live Events

Welcome to ELECTRONIC WEEK 2021

THE ELECTRONIC WEEK OF ELECTRONICS PACKAGING COMMUNITY 2021

Programme Brochure

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Fraunhofer Research Institution for Microsystems and Solid State Technologies, EMFT, Munich - partner of SIITME 2021

Welcome to ELECTRONIC WEEK 2021

A New Online Week Aimed to Promote Electronic Packaging

Prof. D.H.C. mult. Paul SVASTA, Ph.D.
UPB-University Politehnica of Bucharest Romania,
APTE-Association for Promoting Electronics Technology
EIWCSE General Chair

Dear participants,

A year has passed since the first edition in which we had to bring together the two, each year existing, events, TIE and SIITME, consistently promoted by IEEE EPS Hu & Ro Joint Chapter and recently by IMAPS Romania Chapter.

Before revealing my thoughts and including them on the 2021 brochure of the reunited TIE and SIITME events, I concluded to be not too bad that we had to concatenate the two events, which are in fact distinct parts of a whole, called electronic packaging. My regret, not for their concatenation but for the constraint to carry them out online, is due to the impossibility of my meeting with people who for years, some even for decades have been and are involved in the existence and development of TIE and SIITME. Until the pandemic, we knew that in the spring and in the autumn, we will be able to meet those from the academic environment (teachers and students) with those from the industrial environment, meetings that offered us the opportunity to be in an extremely relaxing, friendly atmosphere. familiar, to discuss in different TIE or SIITME sessions, workshops or simply a coffee or a glass containing the juice much promoted by Dionysus or Bacchus, about achievements but especially about how we should proceed in the future for developing the field of electronic packaging in this region of Europe.

I can say, without making too many mistakes, that following some informal discussions I had during the stage of the TIE 2012 edition in Timisoara with, Dr. Catalin Negrea, Prof. Dan Pitica, Prof. Aurel Gontean, Prof. Daniel Trip, Cosmin Moisa, and other people, to whom name I apologize for not remembering them, TIE Plus was born

(the baptismal father of the event being Prof. Trip). And the remembrances regarding the events that were present one numerous TIE and SIITME editions that together exceed the number 57 (!), a number that shows the existence at the level of our community of a particularly good climate of sustainability of the promotion of electronic packaging. continue a long time. But I will stop here. I want, in my essay, to present not only the past of TIE and SIITME but also to approach the present and especially the future that we have in front of us.

The TIE platform, as a concept for the qualification of students' knowledge by the industry, an approach that is effective both within the TIE and in TIE Plus, will continue to be developed by attracting an increasing number of students to activities like research and development, of electronic modules. Currently microelectronics, electronic microsystems are increasingly present through IoT (Internet of Things), Industry 4.0, 5G, etc. and forecasts indicate an increase in the requirements for innovative products that must ensure digitalization in our society. We have also to have in mind the numerous challenges generated by autonomous driving, Electrical Vehicle, and many other areas where electronics is and become more present. In this context, the Steering Committee intends to expand TIE with two more areas, with TIE M and TIE m. TIE M (Mechanic) will address the design side of the mechanical parts of an electronic module the obtained solution representing, in fact the necessary input to Tie subject, while TIE m (micro) will address the interconnection issues at the chip / chiplets level.

SIITME after more than a quarter of a century of presence has become a scientific and technical crucible that brings together the electronic packaging community, a community composed of members from academia (bachelor students, master students, PhD students, teaching staff) and those from electronics industry. The format in which SIITME takes place offers the participants particularly good possibilities to contact the tendencies of the electronic packaging field. Topics presented, during oral sessions by keynote speakers, by speakers, from academia or industry, in professional training courses, in open poster sessions, thematic workshops, represent the establishment of a professional framework of scientific and technical value.

What characterizes the SIITME conference in a powerful way is the attention given to young researchers. In this context, the SIITME format focuses primarily on poster sessions in the sense that it offers for many authors, mostly young people, to present their work to a large audience, including to evaluators teams appointed by the Poster Session Chair. Moreover, all the posters from the conference are gathered in a photo gallery that is posted, before the beginning of the conference, on the SIITME page. In this way a much greater visibility is ensured to the presented papers in the poster session. In addition,

through the one-minute pitching recorded and attached to the poster in the gallery, the interested conference participant can have a first general information regarding the displayed work and will discuss in detail with the author during the conference.

The presented format of the SIITME conference ensures an extremely lively atmosphere throughout the conference and especially during the open poster sessions.

Undoubtedly, the health restrictions caused by the pandemic prevent us from having in the online sessions the same family atmosphere that has been achieved over time in the two events, however even if we are not in person at the events this does not diminish the joy too much. the electronics packaging community, created in the past decades, to be together

All that was presented could not be obtained without a special effort promoted by a lot of volunteers coming from both academia and industry. I would like to express my whole gratitude and thank all these people, students, PhD students, teaching staff or industry professionals for their efforts in ensuring the best possible conditions for the events created and supported by the electronic packaging community in this region to be a real success.

The qualitative level reached by SIITME represents at the same time a concrete expression of the result generated by the constantly effort that IEEE EPS Hu & Ro Joint Chapter makes so that in our geographical region there is an event of the prestige of the current one.

Finally, to all those who will be present, during this dedicated week to electronics, I wish to benefit from the diversified program, prepared with great care and effort by the organizers. And please enjoy, even online, the entire conference and exhibition. I hope that next year, at the followed edition, we will be able to be physically together again to follow the progress that has taken place in our field, to continue or start new collaborations.

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Bucharest, October 18th, 2021

TIE

Prof. Eng. Dan PITICĂ, PhD
TIE General Academic Co-Chair
Technical University of Cluj-Napoca

TIE competitions are already recognized as scientific events, through which the students in the field of electronics validate their professional skills and lead them towards the engineer career.

Also, they represent a good opportunity through which the top universities in Romania display and synchronize the skills offered to the graduate students with the latest challenges that exist in the electronic industry of creating PCB patterns.

Traditionally, these competitions have been organized during springtime, engaging some of the regenerative energies of this season. However, due to the pandemic context of the last years, they have been organized online, in October. Nevertheless, the chosen challenge of gathering students, academic staff and professionals from industry that are dedicated to designing and accomplishing electronic patterns is still valuable and distinguished.

Therefore, we can describe this a “family” that enforces the dynamic setting which electronic engineering crosses through.

Please allow me to wish you all that this year TIE competitions shall remain as defining for the students’ careers and for the professional expertise to which the universities and the electronic companies aspire to.

Celebrating TIE – The 30th Anniversary Edition

Assoc. prof. Liviu VIMAN, PhD

TIE 2021 Chair

Technical University of Cluj-Napoca

The year 2021 marks The 30th Anniversary TIE Contest Edition, which Technical University of Cluj-Napoca is extremely proud to host. It has been a rocky road with its highs and lows, but we are very grateful to have reached this very important milestone of the 30th anniversary of the contest. At this virtual event we will be celebrating the success of TIE and of all our participants, from students to teachers and industry representatives.

TIE has come a long way since the contest was first held in 1991. It has evolved year after year mirroring the fast evolution of the electronics field. As electronic systems have become more complex, the elements within them have become more highly integrated in both functional and physical characteristics. This evolution has resulted in innovations in new products, materials, computer-aided design tools, and manufacturing processes. With the rapid expansion of semiconductor technology and electronics packaging technology, entirely new design and manufacturing disciplines also have evolved.

Unfortunately, due to the ongoing coronavirus pandemic, TIE is again a virtual engineering contest on all its parts. But, with the commitment of all the organizers, participants, teachers, sponsors, and companies involved, the contest will be another success, at the highest level of professionalism, creativity, and work ethic.

As we know, the TIE and TIEplus are career-launching challenges for students, who can demonstrate their knowledge, their developed skills, their inspirations that they will use in their future professional jobs.

Being a part of this big family of PCB designers, everyone should be here, from the first organizers and contestants to the last participant, proudly celebrating this special moment of our lives that Technical University of Cluj-Napoca prepared proudly with a lot of work, care and tenderness.

Cluj-Napoca, October13th, 2021

TIE 2021, the 30th milestone

Prof. Norocel Codreanu, Ph. D.
TIE Technical Manager

In the beginning of 1987, I started the activity in computer aided design using a PC without hard-disk… On one floppy-disk was the DOS operation system and on other floppy-disk the design program… And other programs on other floppies… Crazy, can say amused the students in 2021…

Being passionate and quite skilled in the relative new field of electronics engineering named EDA (Electronic Design Automation) or CAE – CAD – CAM (Computer Aided Engineering - Computer Aided Design, Computer Aided Manufacturing), I have started to use, as young engineer, various new virtual environments and EDA tools for development of electronic modules/systems which were introduced in the middle of the '80s into the industry and academia, after the PC boom. And I took the right decision because this passion was transformed into a profession and career!

In April 1992, as young co-worker of Prof. Paul Svasta, I fully accepted with enthusiasm his proposal to establish together and start a CAD design contest for the students in our faculty. At that time, the six computers of our network had the following technical characteristics (unbelievable, today!): B/W monitor, no hard-disk, no mouse, and no possibilities to perform the SCH-PCB transfer by two computers simultaneously! The participants at TIE 1992 were seven… And the computers only six… Fortunately, one student was in late and the first TIE edition was possible to run and to be finished in good conditions.

Now, in October 2021, as old co-worker of the same full of energy professor Svasta, I continue to have a great enthusiasm, pleasure, and joy at the start of the 30th edition of TIE, looking backward with nostalgia to all the previous 29 editions in which I participated and I fully or partially managed from the technical point of view. The same emotions, nightmares that the subject is not perfect, great moments next to the participants and a true devotion to engineering, academia and electronics industry.

So, at the 30th TIE milestone, I can conclude, deeply touched, that the TIE contest is for me a great life experience, part of my whole life, not only a professional event! Thank you, all, for making our 1992 dream come true!

I wish success to all the students participating to TIE 2021!

Congratulations to TIE

Professor Chris Bailey

President, IEEE Electronics Packaging Society

On behalf of the IEEE Electronics Packaging Society, may I congratulate the organising committee of The Interconnections in Electronics (TIE) contest for reaching the 30th anniversary of this unique and important student contest. A special thanks to Professor Paul Svasta for his continued leadership and support of this contest, and the achievements in delivering many skilled students who have benefited from participating in this contest over the years. I also express a warm welcome to this year's participants, who I know will significantly benefit from the exposure to state-of-the-art design tools for addressing real industrial problems.

The challenges of extending Moore's Law is seeing significant transformation in the electronics industry. The development of advanced interconnection and packaging technologies is experiencing substantial growth globally to meet the expectations of industry and their customers in driving forward the vision of More-Than-Moore. Co-Design, Modelling, and Simulation play a key role in supporting this vision and the next generation of advanced printed circuit boards and packaging technologies. Predictions for power and signal integrity, thermal and mechanical behaviour, and reliability can now be provided early within the product design stage. This leads to extensive cost savings by reducing the amount of physical prototyping and testing of printed circuit board assemblies.

TIE and TIE+ are exemplars in providing a collaborative environment for students and their advisors to engage with PCB design professionals and industry in promoting simulation-based PCB designs and providing the skills that the industry requires in virtual prototyping. These skills will support the world-wide electronics industry and address the challenges detailed in the Heterogeneous Integration Roadmap, which can be found on the IEEE Electronics Packaging Society web page.

My very best wishes to all participants to this unique event. I look forward to participating and experiencing the contest this year and investigating how our society can learn from the experiences of this contest and disseminate the methodology of TIE to benefit the electronics packaging community worldwide.

IEEE ELECTRONICS PACKAGING SOCIETY

https://eps.ieee.org/

Praiseworthy attainment of 30 years of Teaching, Training and Skill Development: TIE and TIE+

Prof. Nihal Sinnadurai
Fellow IEEE, Fellow Institute of Physics,
Chartered Engineer
UK

TIE - Interconnection Techniques in Electronics, and TIE+ - Focused on virtual prototyping disciplines for complex PCB design

I have been privileged to attend and see the events at first hand. The concept is very insightful as a very effective way of taking teaching forward to an open forum where students are given the opportunity to show what they have learned of the implementation of the interconnections and components of electronics technologies. TIE+ takes the education process one step further to 'virtually prototype' complex PCBs. It is interesting that the audience and examiners can walk amongst the groups of students at the workstations (loaded with the design software) and even ask questions without slowing their work and concentration.

I am also impressed that TIE is supported by industry companies who attend the student competition and offer jobs – an even stronger incentive to learn and demonstre skills.

TIE is a competition, so it is not stress-free. Indeed the students are informed of the design requirement in the morning and have a defined time in which to do the design. The examiners check for the best solutions and for knowledge of fundamentals of circuits and components.

The imagination of the person who initiated TIE is praiseworthy. Also the team deserves high priase, because, I know that ideas do come from dialogue, discussion and clever people in the teams.

Best Wishes to the TIE Team!

Welcome to the Electronic Week: TIE+, TIE and SIITME 2021 participants!

Zsolt Illyefalvi-Vitéz, dr.techn, CSc/PhD, DHC
Honorary Professor
Budapest University of Technology and Economics
Member and Contact of APTE
Association for Promoting Electronics Technology

It gives me great pleasure that over the past few years, despite the pandemic that has made our lives more difficult, this conference has undergone tremendous development. As part of the Electronics Week, the learning event nature of SIITME, which attracts more and more young people, was further strengthened through TIE+, the TIE Student Contest, industry workshops, professional development demonstrations and other similar innovations. Indeed, we can say that SIITME is a learning and at the same time teaching opportunity for both ages of the participants. Students, young engineers and researchers come here to gain knowledge from the more experienced colleagues, but they also teach them by presenting innovative ideas and results. Moreover, from the papers the whole electronics engineering community can learn, since all excellent papers will be uploaded to the IEEE Xplore digital library.

It should also emphasize that SIITME is a real meeting place for Academia and Industry. Good to see that the exhibitors and other industrial representatives come from companies which have European roots or European connections. In this way, SIITME can show the talents of the participants not only for the benefit of Romania, but also for Europe.

The success of a conference depends on many factors, whose share should be acknowledged here. Many thanks to the Committee members, the special session organizers and other distinguished personalities, for their efforts. It is particularly important to thank Professor Paul Svasta, who, through the nearly three-decade history of SIITME, has tirelessly led the organization and been at the forefront of introducing innovations, most notably building industrial relationships. Since one important measure of the effectiveness of conferences is the scientific level of presentations and publications,

the contribution of the reviewers to ensure the quality of the accepted papers is highly appreciated.

However, a conference can actually be made great, valuable, and memorable by the activity of the participants. I am confident that it is primarily you, the talented young people, who will give high-quality presentations followed by fruitful discussions, will make this conference really great.

I wish all SIITME participants fruitful work! During this period, it is important to add that take great care of your health!

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A remarkable initiative

Assoc. Prof. Tecla Goraş, PhD

Gh. Asachi Technical University of Iaşi, Romania

Thirty years ago Professor Svasta together with his co-workers from CETTI initiated the students contest TIE. Besides the enthusiasm of the organizers the initiative was an inspired response to industry necessities. Now TIE is a student contest well-known in the Romanian electronics communities and not only. It is perhaps the most anchored contest in industry applications. For the students, it is a challenge and an opportunity to improve their knowledge in a highly useful domain of electronics, to meet colleagues and high level specialists from other universities and from industry. We were honored and proud to have organized in Iasi, at the Faculty of Electronics, Telecommunications and Information Technology of the "Gheorghe Asachi" Technical University of Iasi, two editions of the contest, those in 2005 and 2017.

I am convinced that the success of the contest will last in the years to come in the benefit of both universities and industry.

TIE

Prof. Aurel GONTEAN, PhD

University Politehnica of Timişoara, Romania

TIE is today a more than an engineering contest, it is a multiple way bridge, linking academia with industry, participants from all the specific faculties in Romania, linking generations.

For years now, the TIE diploma winners have very good positions, ranging from experts to managers.

2021 is the 30th Anniversary TIE Edition, hosted (virtually) by the Technical University of Cluj-Napoca and co-hosted by Politehnica University Timisoara in now the already traditional Electronic Week, along with TIE+ and SIITME. Let the best of the best win!

Celebrating 30 years of TIE

Joseph FJELSTAD,
CEO Founder
Verdant Electronics
Seattle, Washington, USA

This year marks the 30th year of the TIE event is also marks my 50th year in the printed circuit industry. I was fortunate enough to find my way into the PCB industry through the analytical lab of the company Printex in Mountain View California in the early days of Silicon Valley.

My job was to analyze daily the plating solutions used in the manufacture of printed circuits at what was one of the premier printed circuit manufacturers in the valley and the nation. I was also tasked with preparing and evaluating microsections of the plated through holes of those printed circuits and look for potential shortcomings or failures. I was ambitious and energetic enough to complete those tasks is just a few hours daily leaving me time to go into the manufacturing area to learn the details of every area of PCB processing. It was a time of immeasurable value to me for the rest of my career as I learned to diagnose and correct problems in processing. I also came to appreciate that there are few products that draw on such a varied palate of technologies to create them… composite laminates, computer controlled machining (i.e drilling and routing) electroless and electrolytic plating, screen printing, wet and dry film imaging, chemical etching and others. To me it makes PCB manufacturing tirelessly interesting.

Today those processes, though greatly improved in terms of machines, materials and processes available, remain fundamentally unchanged but the circuit features are now approaching or in some cases equal to those produced on semiconductor integrated circuits of that era, the big difference is back at that time the semiconductor substrates were 50 and 75mm silicon wafers and today those near same size (10-20um) features are being produced on 450 x 600 mm panels. This has been a remarkable achievement.

Much has also changed in the realm of PCB design. PCB designers of the early days were largely mechanical draftsmen charged with “connecting the dots” on the schematic provided by the circuit/schematic designer.

Artwork was often created by hand taping circuit traces and pads at 2 to 4 times the size of the actual circuit and using a large camera to “shoot down” the artwork to the size needed for contact printing the circuit image with working film. Double sided circuits were

most common at the time, 4-layer multilayer circuits were essentially state of the art and matters like controlled impedance was almost unheard of. Today's PCB designers smile at such simplicity.

One unfortunate thing that has happened over the years is that while semiconductors have grown in appreciation and reputation, the PCB has been often underappreciated and undervalued. I have over the years likened the semiconductor to a magician or illusionist and the PCB as the stage upon which the magician/Illusionist works. Without a suitable stage, the magic or illusion will not happen. The PCB and the semiconductor must work together to make things work.

In more recent years, I have personally become ever more appreciative of the importance of PCB designers and their work. The choices they make are of the utmost importance to the end-product. Designers must become increasingly knowledge able of materials and the many different design attributes to make their designs suitable for the applications intended, DFR (design for reliability)… DFT (design for test)… DFE (design for environment)… DFA (design for assembly)… are checklists along side perhaps the most important DFM (design of manufacturing). A couple of years ago, I suggested in a published article that a better approach might be to Design WITH Manufacturing or DWM. This was arguably common practice in the early days of the industry when vertically integrated manufacturers built everything "under one roof" and ties between design and manufacturing were much closer and stronger.

Today's IC packages and PCB substrates must work flawlessly together to meet requirement and designers must become increasingly attentive to mechanical concerns alongside the electrical concern. Matters such as CTE (coefficient of thermal expansion) and Tg (glass transition temperature) need to be part of their design calculus. So also will use of predictive modeling to look for prospective failures in advance and address them before they happen. Such analytical software is becoming more common as electronic products find their way into products which must perform in harsh environments.

In summary, the electronics industry at its core is a partnership between semiconductors and printed circuits and the importance of the PCB designers work cannot be overstated in my opinion. I admire and applaud the organizers of both TIE and SIITME for their remarkable and tireless effort to bring awareness of the changes underway to those who attend and participate in these two increasingly valuable learning experiences and important events.

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TIE - A succes exemple of cooperation, progress, and excellence

Prof. Dorel Aiordachioaie, PhD
Dunarea de Jos University of Galati

It is my great pleasure to highlight the exceptional activity and results of the Competition of Interconnection Techniques in Electronics (TIE). I have noticed over the years, a constant evolution of the quality of this competition, through the involvement of both experienced teachers from large university centers of electronics but also from smaller centers, which are in evolution. I highlight the involvement of companies with activity in the field of electronics.

The success of this student contest is due to the special cooperation between universities and the companies in the field. The TIE competition is an example, a reference, of good practices in the cooperation between universities and specialized companies. The TIE competition is definitely an example to be followed by other competitions that take place in the country in the field of electronics. I have noticed the continuous improvement of the organizational framework, by defining and promoting some specilized teams, as the technical or steering organizing committee.

The TIE competition is actually a series of events, equally important for the community of specialists from Electronic Packaging, from which I highlight the suite of lectures / presentations from electronic technology, but also the points of view of some personalities in the field. All these make the TIE an exceptional event and highly appreciated by students and specialists in the field.

I wish good luck to all students and their tutors!

WE MAKE THE EDUCATION DESIRED BY BENEFICIARY

Prof. Ioan Liță, PhD
University of Pitești

The International Computer Aided Design Competition for PCB Interconnection Structures, TIE, is one of the possibilities for recognizing PCB design skills.

Considering the formation and maintenance of scientific, technical and practical traditions, it was necessary to periodically organize large-scale scientific events, at national or international level: the IEEE International Symposium for Design and Technology in Electronic Packaging (SIITME) and the TIE Student Contest.

Closely related to this competition is another event in the field, namely the IEEE International Symposium for Design and Technology in Electronic Packaging (SIITME). The objectives of this conference are to disseminate the acquired knowledge and experiences, to collaborate with the partners in the field of research and innovation, ensuring an adequate scientific discussion forum. The topics of the conference are current and of great interest, being clearly reflected by the name of the conference and also closely related to the concerns of the community of specialists to which it is addressed.

At the same time, the professional student contest TIE is an important forum for members of the electronic engineering community in Romania and not only, but also the place where future trends and ideas are drawn.

Historically speaking, the competition started in 1992 in a restricted form and at a time when the Romanian electronics industry was in decline, at the initiative of Prof. emeritus Dr. Eng. Multi DHC Svasta Paul expanding in the many university centers in the country and even outside it, thus gaining international recognition. In time, the organization of these competitions went to almost all the 13 university centers in collaboration with the Polytechnic University of Bucharest.

Some characteristics that emerge regarding the evolution in all directions of this event:

- The contest topics were generated by professional staff representative for the industrial environment (Continental Automotive Romania Timisoara), also transposed into CAD by an expert of the industrial environment (Microchip Romania) and validated by the president of the University Technical Committee.

-The existence of an electronic packaging community in Romania, included a series of actions meant to promote the communion of education with the business environment.

-The involvement of the business environment and professional associations has been and is a major objective of the steering committee. We think in this regard to the active presence of the Romanian Association for the Electronics and Software Industry - ARIES, which is the largest and most influential organization created for the IT&C industry in Romania and to the major contribution to the good organization and development of TIE activities of the Association for Promotion of Electronic Technology - APTE.

-If at the beginning editions there were fewer competitors, along the way, when the number of participants increased, two phases of the competition were formed: the local phase, at each university and the final phase, organized annually in one of the 13 university centers with electronics specializations.

-The development and the international recognition of the TIE professional competition has two components. On the one hand there is the participation of students from the Technical University of Budapest and on the other hand there is the participation of specialists from the university and research environment in Europe (Heinz Wohlrabe, Zsolt Illyefalvi-Vitez, Detlef Bonfert, etc.). Let's not forget the reporting of TIE and TIE plus events in prestigious publications in the field (PCB Design or Signal Integrity Journal).

- The TIE competition also includes a technical exhibition for companies in the field, an opportunity for them to present their products, achievements and technologies.

- Also, in the same context of renewal and connection to modern trends, in the run-up to the competition, workshops are organized where the ideal framework for high-profile academic debates is provided, on important topics in the field. There exists the Technical Workshop, where professionals present the level and trend in the electronics industry, and the Workshop designed to train human resources in the electronics industry that brought together, from the industrial environment, managers of technical or human resources departments. The promoters of these events practically wanted a socialization meeting of the experts from the industrial and university environment in order to increase the competitiveness of the graduate in electronic engineering. In this sense, we mention discussions on actions oriented towards the practice of students and attracting young people from high school to engineering.

-Looking back in time we notice that the educational debates regarding the electronic technology domain were initiated in another forum, mentioned above, namely the IEEE International Symposium for Design and Technology in Electronic Packaging - SIITME.

They were subsequently taken over and treated at an appropriate level in the TIE workshops.

-Concerns for a competition at another level; TIE Plus is a new competition and a challenge under the TIE brand having Signal & Power Integrity as its area of interest. Undergraduate or master's and doctoral students can participate here, as well as post-doc specialist who are less than 5 years old from obtaining the doctor's degree.

-The reward of the competitors' efforts has evolved both materially but especially immaterially. Thus, the Industrial Committee of the competition establishes the minimum representative score for which the participants receive the “Certificate of Competence in PCB design”, a real business card regarding their competence at employment.

-The contest was intended to be especially dedicated to the collaboration of the academic environment with the socio-economic one. As a result of these connections with industry and the business environment, the TIE professional contest responds to the demand for recruiting graduates with a degree in technology domain, a demand that has two characteristics: it is growing both quantitatively and qualitatively, due to the high level of industrial technologies.

Over 30 years

Dean, Assoc. Prof. Laurențiu-Mihai IONESCU, Ph.D
Prof. Ioan LIȚĂ, Ph.D
Assoc. Prof. Alin-Gheorghiță MAZĂRE, Ph.D
University of Pitești

TIE after 30 years, a contest that has matured, also has a 6-year-old child TIEplus, and starting with 2020 is part of the family "The Electronic Week Of Electronics Packaging Community" along with the exceptional SIITME conference. We have been part of these events since the beginning, being members of the technical committee and we are happy about that. We were witnesses, but also involved in the evolution of this contest from a contest organized entirely by academia to a contest in which the industrial environment became part and coming with the best specialists involved in the construction of topics, but also in evaluation projects carried out by our students. The beauty of this evolution led both to the evolution of our students who have workshops offered by the industrial environment and to the advice of specialists received during the evaluation of the project and to our evolution by updating with news in this spectacular and beautiful field. We can say that a strong partnership between the three environments has reached a state of normalcy: academic, industrial and student, a partnership in which everyone wins, no one loses!

But let's not forget SIITME, a soul conference in which specialist, professors and PhD students summarize the results of their research in scientific papers held through oral sessions or poster sessions. In the 27 years of existence, we have all had unique experiences through the exchange of knowledge between members of the SIITME community, an international community in which degree and function are secondary, the only thing that matters is the desire to know each other, to observe the evolution of the field, to update information about the latest technologies and research directions as well as to find out about the experiences lived recently by each of us. A meeting for the dissemination of the latest scientific discoveries with a direct impact on the evolution of human society. SIITME is a conference in which everyone evolves in spirit and science.

Thanks „The Electronic Week Of Electronics Packaging Community”

Pitești, October 20, 2021

TIE, 30th ANNIVERSARY!

Prof. Dorin PETREUȘ, PhD
Head of Applied Electronics Department
Technical University of Cluj-Napoca

Every year, there are two important events for the Applied Electronics Department of the Faculty of Electronics, Telecommunications, and Information Technology from Technical University of Cluj-Napoca: the SIITME conference and student contest TIE.

Both are Professor's Paul Svasta initiatives, from University Politehnica of Bucharest but have found full support in Cluj-Napoca, especially thanks to Professor Dan Pitica vice-rector of Technical University.

The INTERCONNECTION TECHNIQUES IN ELECTRONICS (TIE), one of the most important student contests, is a student professional contest whose objective is to promote technological computer aided design (CAE-CAD-CAM) of electronic modules. At this international contest participate more than 12 universities from country but is also opened to all European universities interested in education and training in the field of electronic packaging.

Beside universities, a very important role is played by industrial partners.

This year is the 30th Anniversary TIE Edition, which Technical University of Cluj-Napoca will be proud to host, and a consistent contribution will have Applied Electronics Department.

Many colleagues in our department are supporting this event, being involved through all the processes: associate professors: Gabriel Chindris, Liviu Viman and assistant professors: Mihai Daraban, and Raul Fizesan .

Every year, students trained by my colleagues have very good results coming back with a lot of experience and numerous prizes.

I want to congratulate Liviu Viman and Gabi Chindris as Chair and co-Chair of TIE 2021, and to wish them a lot of success in this anniversary edition!

I also want to assure them of all my support and involvement!

TIE & TIEplus – A new challenge each year

Assoc. Prof. Mihai DĂRĂBAN, Ph.D.
Technical University of Cluj-Napoca

TIE & TIEplus is a unique way of involving students in a wide variety of Printed Circuit Board (PCB) design, Signal Integrity (SI) and Power Integrity (PI) issues within electrical engineering.

As a young student in electronics and telecommunication, I also participated at TIE contest. I will always remember the days spent in training for the contest. However, each year there were always challenging tasks. Looking back, I think those challenges pushed me in trying to get better and improve my skills in understanding the processes and the workflow in designing the layout for PCBs.

After graduation I choose to follow a university carrier, so I applied for a Ph.D. scholarship. My Ph.D. involved analyzing how coding the transmitted data on parallel buses can reduce crosstalk effects. The title of the thesis contained topics discussed during TIE training. Even if I knew and understood the topic, the challenge shifted to analyzing and interpreting the waveforms obtained during simulation setups or physical measurements.

To support the next generation of electronics designers, from 2015 TIE introduced a new challenge in the form of TIEplus. TIEplus focus is on the theoretical and analytical part of Signal Integrity (SI) and Power Integrity (PI).

Through TIE and TIEplus, students can find what it really suits them when it comes to PCB design:

- TIE – challenges in placing components and routing traces while following mechanical restrictions, SI and PI guide lines.
- TIEplus – analyzing and solving signal and power integrity topics for high-speed circuits.

I wish to all participants to have a great experience at Tie & TIEplus!

Open Minds Open Doors

Andreea-Luminița TAȘNADI
Signal Integrity Engineer
Virtual Prototyping Electronic Design
Instrumentation & Driver HMI

First place at TIEplus contest 2018

In this rapidly changing world, I believe that the form of learning dictates if the knowledge acquired has the right structure to be used as an instrument or not. TIEplus offers students the opportunity to discover industry challenges that engineers in this field are facing nowadays. The subject of this edition covers the interface MIPI CSI-2 which is prevalent in mobile devices and vehicles today. The format of the tasks that students must solve continues to emphasize the need for specific technical and analytical skills that recruiters in electronics companies are looking for when hiring. TIEplus creates favorable circumstances for students to take a step closer to a career in the field of high-speed design.

During this event's history there were many success stories of students who participated at TIE and TIEplus and shaped a career because of the exposure gained. In my opinion, this anniversary edition of TIE is a reminder that these stories have a common thread: the people who make this event happen, the TIE community, who guide students to which doors are worth open.

Timișoara, 14.10.2021

Contact: Continental Automotive Romania
andreea.tasnadi@continental-corporation.com
Technical University of Cluj-Napoca

Modern Electronics Engineering

Radu Voina

Team Lead, Keytek Innovation

First place at TIE contest 2016

First place at TIEplus contest 2017

Technical University of Cluj-Napoca

The process design must adapt in today's fast-paced digital world, where new standards bring higher data rates and more complex designs. Modern PCB layout design is a complex process with many considerations and almost always with no single "right" answer to achieving the desired outcome. The analytical skills, combined signal/power integrity simulations, and an in-depth understanding of the PCB design process will generate the best design choices to balance the price/performance ratio.

TIE and TIEplus contests provide a unique opportunity for passionate students to showcase their technical skills and face new challenges in the training period using the latest technologies. They could meet some of the best engineers in the printed circuit design field and start new friendships and professional relationships during the contest. TIE and TIEplus are an excellent chance for students to get in touch with the industry needs and start their careers in an electronics company.

Contact: radu.voina@keytek.eu

ELECTRONIC WEEK 2021 Programme

Monday, October 25

09:00 – 09:30	**Opening ceremony for the Electronic Industry Week**
09:30 – 10:00	**TIEPlus opening, subject introduction**
10:00 – 13:00	**TIEPlus CONTEST**
13:00 – 14:00	***Lunch Break***
14:00 – 16:00	**TIEplus 2021 subject demystification**
16:30 – 18:00	**TIE – technical session**
18:00 – 19:00	**EIW 2021 Organizing Committee Meeting**

Tuesday, October 26

07:45 – 08:15	**TIE contest preliminary activities**
08:15 – 12:45	**TIE CONTEST**
08:30 – 12:00	**TIE Evaluation Scale Training**
12:45 – 14:00	***Lunch Break***
14:00 – 20:00	**Assessment of the projects; litigations**
20:00 – 21:30	**TIE 2020 Committee Meeting**

Wednesday, October 27

09:00 – 12:00	**Strategic Partnership for Education Workshop**
12:00 – 12:45	**TIE 2021 subject demystification**
12:45 – 14:30	**TIE and TIEplus Awarding ceremony**
14:30 – 16:00	***Lunch Break***
16:00 – 18:30	**Professional Development Hours**
18:30 – 20:30	**IEEE – Hu & RO EPS&NTC Joint Chapter Meeting**

Thursday, October 28

08:45 - 09:10	**Opening ceremony**
09:15 - 11:10	**Plenary Oral Session 1**
11:20 - 13:30	**Plenary Oral Session 2**
13:30 – 14:20	***Lunch Break***
14:20 - 14:50	**Industrial Session 1**
15:00 - 16:30	**Poster Session 1**
16:40 - 18:55	**Plenary Oral Session 3**
19:00 - 20:30	**Networking IEEE, IMAPS Student Branch Chapter**

Friday, October 29

08:30 - 10:00	**Poster Session 2**
10:10 - 10:50	**Industrial session 2**
10:50 - 12.20	**Plenary Oral Session 4**
12:20 - 13:00	**Industrial Workshop**
13:00 – 14:00	***Lunch Break***
14:00 - 14:30	**Special Session**
14:40 - 16:10	**Poster Session 3**
16:20 - 17:50	**Plenary Oral Session 5**
17:50 - 19:30	**Steering Committee Meeting**
19:30 - 20:30	**Awarding ceremony & Welcome to SIITME 2022 & ESTC2022**


ONLINE
25 - 27
OCT 2021
30th
anniversary
TIE Edition
TIE
DESIGN OF ELECTRONIC
MODULES & ASSEMBLIES
www.tie.ro
A WAY to turn your HOBBY into PROFESSION
WWW.TIE.RO
CLUJ-NAPOCA
ROMANIA
TECHNICAL UNIVERSITY
OF CLUJ-NAPOCA
ROMANIA
APTE
ASSOCIATION FOR PROMOTING
ELECTRONICS TECHNOLOGY
EPS
IEEE EPS
STUDENT CHAPTER
TECHNICAL UNIVERSITY
OF CLUJ-NAPOCA

TIE

Monday, October 25

EEST | GMT +3h

09:00 – 09:30	**Opening ceremony for the Electronic Industry Week**
09:30 – 10:00	**TIEPlus opening, subject introduction**
10:00 – 13:00	**TIEPlus CONTEST**
13:00 – 14:00	**Lunch Break**
14:00 – 16:00	**TIEplus 2021 subject demystification**
16:30 – 18:00	**TIE – Technical session**
18:00 – 19:00	**EIW 2021 Organizing Committee Meeting**

Opening ceremony for the Electronic Industry Week Central and South Eastern Europe

Monday, October 25, 2021 - 09:00 – 09:30

Paul SVASTA,
UPB-University Politehnica of Bucharest Romania,
IEEE EPS Hu&Ro Joint Chapter co-founder
EIWCSE General Chair

Zsolt ILLYEFALVI-VITÉZ,
Budapest University of Technology and Economics, Hungary
IEEE EPS Hu&Ro Joint Chapter co-founder
TIE/SIITME International Advisor

Klaus-Jürgen WOLTER,
TU Dresden, Germany
IEEE EPS Germany Chapter
TIE/SIITME International Advisor

Cosmin MOISA
Continental Automotive Romania
TIE General Industrial Co-Chair
SIITME Conference Co-Chair

TIE^{Plus} contest

Monday, October 19, 2020 - 09:30 – 14.00

09:30 – 10:00 TIE^{Plus} opening, subject introduction

Dr. Cătălin Negrea, DarkNote Engineering

10:00 – 13:00 TIE^{Plus} CONTEST evaluation session

Presentation of technical reports by contestants:

Mircea Călin, Politehnica University of Bucharest
Marian Cristian Oțoiu, Politehnica University of Bucharest
Mihai Rus, Technical University of Cluj-Napoca

13:00 – 14:00 Lunch Break

14:00 – 16:00 TIEplus 2021 subject demystification

Marcel MANOFU, SI/PI Principal Eng., Continental Automotive, Timişoara
Cătălin NEGREA, Continental Automotive, Timişoara
Roxana VLĂDUȚĂ, SI Engineer, eSilicon, București

TIE^{Plus} 2021 Registered Participants:

Mihai Rus, Technical University of Cluj-Napoca
Loredana-Maria Burciu, Politehnica University of Bucharest
Radu Fotescu, Politehnica University of Bucharest
Calin Mircea, Politehnica University of Bucharest
Marian Cristian Otoiu, Politehnica University of Bucharest
Irina Madalina Ioneci, Politehnica University of Bucharest
Gabriel-Claudiu Ioneci, University of Pitești
Alexandra Nuta, Politehnica University of Bucharest

TIE^{Plus} University Licensing Sponsors:

CST joins SIMULIA

ANSYS TENSOR

TIE[Plus] Steering Committee

Chairman:
Cătălin NEGREA, DarkNote Engineering, Timişoara
Co-Chairman:
Marcel MANOFU, Continental Automotive, Timişoara, Romania
Members:
Norocel CODREANU, University Politehnica of Bucharest
Cosmin MOISĂ, Continental Automotive, Timişoara
Dan PITICĂ, Technical University of Cluj-Napoca
Paul SVASTA, University Politehnica of Bucharest

TIE[Plus] Organizing Committee

Coordinator: Marcel MANOFU, Continental Automotive, Timişoara
Norocel CODREANU, University Politehnica of Bucharest
Mihai DĂRĂBAN, Technical University of Cluj-Napoca, Romania
Bogdan MIHĂILESCU, Association for Promoting Electronic Technology
Andreea-Luminiţa TASNADI, Continental Automotive, Timişoara
Radu VOINA, Principal Engineer, Keytek, Alba Iulia, Romania

TIE[Plus] Technical Committee Members

Mihai BURGHEAUA, Layout Engineer, Continental-OSRAM, Iaşi
Norocel CODREANU, University Politehnica of Bucharest
Danilo Di FEBO, Business Development, CST, Italy
Markus LAUDIEN, Lead Application Engineer, ANSYS, Germany
Marcel MANOFU, SI/PI Principal Eng., Continental Automotive, Timişoara
Răzvan NEAG, SI/PI Eng., Continental Engineering Services, Timişoara
Cătălin NEGREA, Continental Automotive, Timişoara
Camelia STOICA, EBU Technical Services, INAS, Craiova
Roxana VLĂDUȚĂ, SI Engineer, eSilicon, București
Radu VOINA, Principal Engineer, Keytek, Alba Iulia, Romania

TIEplus - A Virtual Prototyping Student Contest focused on Printed Circuit Board Design

Abstract: *The TIEplus simulation contest is a unique opportunity for students to test their simulation skills on industry inspired EE design topics*

Keyword: virtual prototyping, design flow, simulation, high-speed design, thermal analysis

The continuous complexity increase of electronic assemblies correlated with today's time-to-market demands, creates the need of accelerated development cycles that imply the usage of virtual prototyping techniques. In the last decade, the importance of topics like signal integrity, thermal management, and electro-magnetic compatibility in the development of an electronic device, has risen dramatically, creating the need for a concurrent simulation-based design flow.

The goal of TIEplus is to promote virtual prototyping disciplines among universities and R&D centers by involving students (bachelor, master, Ph.D.) in workshops and presentations from simulation software vendors and industry experts, as a preparation for the contest.

The contest is based on an online platform where all the modeling information is provided; the contestants have two weeks to create the model and simulate the

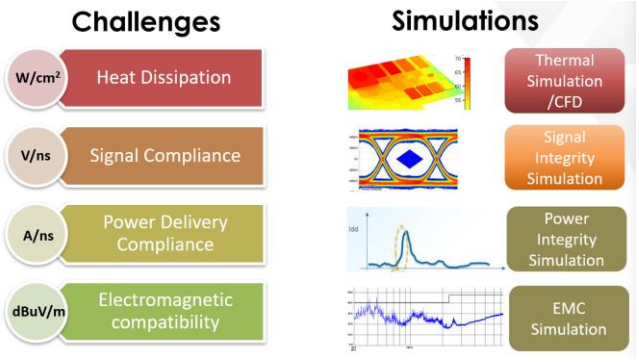


Fig. 1. PCB design challenges and supporting simulation disciplines addressed by TIEplus contest

interconnect according the requirements. At the end of this period they will present the simulation results to the evaluation committee.

This edition's engineering challenge is defined around an augmented reality headset system, and it incorporates signal integrity requirements for a 5-lane LVDS interface, as well as power integrity design coupled with thermal analysis.

About the presenter: Catalin Negrea is the initiator and coordinator of a virtual prototyping team in Continental Automotive, Interior Division, 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 the Politehnica University of Bucharest in 2013, with a thesis focused on multidisciplinary modeling and electro-thermal simulation of semiconductor devices. Catalin is the author of 20 scientific papers in the fields of thermal management and signal integrity.

Dr. Catalin Negrea

Lead Engineer / Virtual Prototyping

DarkNote Engineering
catalin.negrea@darknote.eu

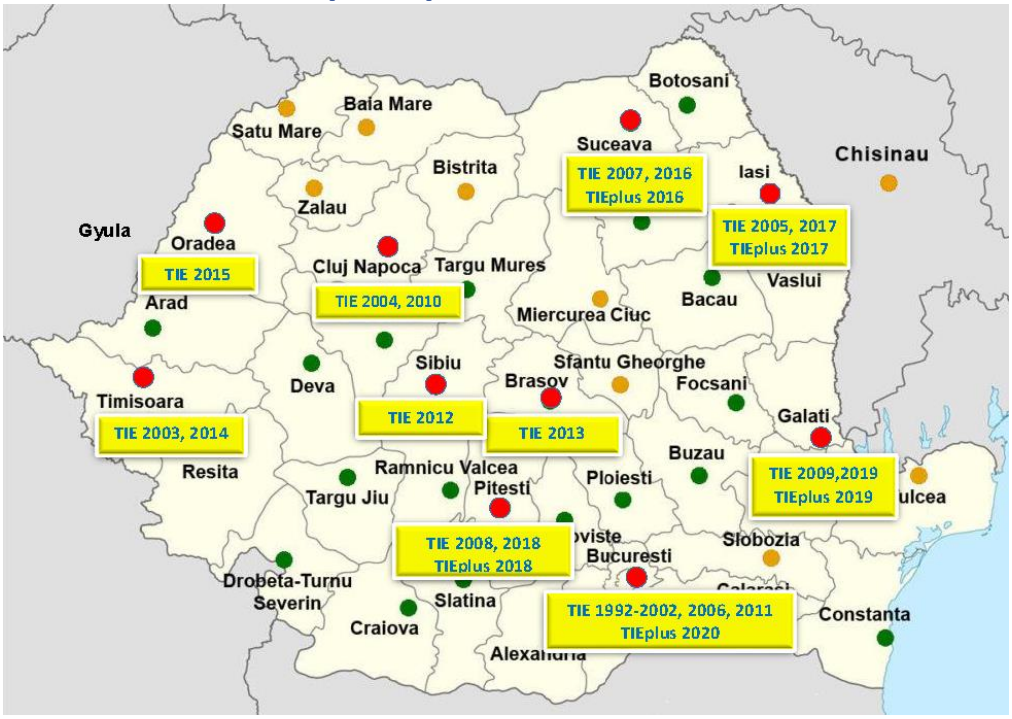
TIE

Tuesday, October 26

EEST | GMT +3h

07:45 – 08:15	**TIE contest preliminary activities**
08:15 – 12:45	**TIE CONTEST**
08:30 – 12:00	**TIE Evaluation Scale Training**
12:45 – 14:00	**Lunch Break**
14:00 – 20:00	**Assessment of the projects; litigations**
20:00 – 21:30	**TIE 2020 Committee Meeting**

TIE & TIE^{PLUS} past, present and future editions



Year	University	Event
1992-2002	University Politehnica of Bucharest	TIE
2003	Politehnica University of Timişoara	TIE
2004	Technical University of Cluj-Napoca	TIE
2005	Gh. Asachi Technical University of Iaşi	TIE
2006	University Politehnica of Bucharest	TIE
2007	Ştefan cel Mare University of Suceava	TIE
2008	University of Piteşti	TIE
2009	Dunărea de Jos University of Galaţi	TIE
2010	Technical University of Cluj-Napoca	TIE
2011	University Politehnica of Bucharest	TIE
2012	Lucian Blaga University of Sibiu	TIE
2013	Transilvania University of Braşov	TIE

2014	Politehnica University of Timişoara	TIE
2015	University of Oradea	TIE, TIE^{Plus} Kick-off
2016	Ştefan cel Mare University of Suceava	TIE, TIE^{Plus}
2017	Gh. Asachi Technical University of Iaşi	TIE, TIE^{Plus}
2018	University of Piteşti	TIE, TIE^{Plus} 1st TIE bootcamp
2019	Dunărea de Jos University of Galaţi	TIE, TIE^{Plus}
2020	University Politehnica of Bucharest - Virtual Event	TIE, TIE^{Plus} , TIEm Kick-off
2021	Technical University of Cluj-Napoca - Virtual Event	TIE, TIE^{Plus}
2022	University Politehnica of Bucharest – Hybrid Event	TIE, TIE^{Plus} TIµE Kick-off

TIE Winners

Year	Name	University
2020	Victor Țurca	Ştefan cel Mare University of Suceava
2019	Ghineț Dragoș	Technical University of Cluj Napoca
	Chiraș Ovidiu Marius	Ştefan cel Mare University of Suceava
2018	Goglea Alexandru Nicolae	University of Piteşti
2017	Cojocariu Gheorghe	Ştefan cel Mare University of Suceava
2016	Voina Radu	Technical University of Cluj Napoca
2015	Luchian Teodor	Ştefan cel Mare University of Suceava
2014	Grigoraş Eduard	Ştefan cel Mare University of Suceava
2013	Bostan Adrian	University Politehnica of Bucharest
2012	Aldea Alin	University of Piteşti
2011	Precup Călin	Politehnica University of Timişoara
2010	Dungă Tudor Dan	Politehnica University of Timişoara
2009	Răducanu Bogdan	University Politehnica of Bucharest
2008	Oşan Adrian	Politehnica University of Timişoara
2007	Tamaş Cosmin Andrei	University Politehnica of Bucharest

2006	Moscalu Dragoş	Gh.Asachi Technical University of Iaşi
2005	Andreiciuc Adrian	Politehnica University of Timişoara
2004	Berceanu Cristian	Politehnica University of Timişoara
2003	Munteanu George	University Politehnica of Bucharest
2002	Rangu Marius	Politehnica University of Timişoara
2001	Toma Corneliu	University Politehnica of Bucharest
2000	Vlad Andrei	University Politehnica of Bucharest
1999	Savu Mihai	University Politehnica of Bucharest
1998	Alexandrescu Dan	University Politehnica of Bucharest
1997	Gavrilaş Cristian	University Politehnica of Bucharest
1996	Vintilă Mihai	University Politehnica of Bucharest
1995	Ştefan Marius Sorin	University Politehnica of Bucharest
1994	Bucioc Mihai	University Politehnica of Bucharest
1993	Teodorescu Tudor	University Politehnica of Bucharest
1992	Teodorescu Tudor	University Politehnica of Bucharest

Recognition by the industry of student competences in PCB design

TIE 2021 Certificate of Competence

The „PCB Designer” certificate is awarded, after evaluation, by the TIE IC (Industrial Committee) to selected contestants, as recognition of their high level of knowledge in the field of EDA and CAD for development of electronic modules/assemblies. The evaluation is based on the worldwide known and accepted IPC standards. The certificate is offered under the “umbrella” of the Association for Promoting Electronics Technology (APTE).

TIE Industrial Committee
Recommended PCB designers from 2010-2020

Participant Name	University	Year
Veres-Vitályos Álmos	Technical University of Cluj Napoca	2020
Petre I. Adrian-Răzvan	POLITEHNICA University of Bucharest	2020
Adam Cseke	Technical University of Cluj Napoca	2020
George Lucaci	Technical University of Cluj Napoca	2020
Chiraș Ovidiu Marius	Ştefan cel Mare University of Suceava	2019
Butean Fabian Manuel	Politehnica University of Timişoara	2019
Țurca Victor	Ştefan cel Mare University of Suceava	2019
Samoilă Daniel Emanuel	1 Decembrie 1918 University of Alba Iulia	2019
Condurache Alexandru	University of Piteşti	2019
Cîrstinoiu Bogdan	Politehnica University of Timişoara	2019
Cojocariu Dan	Gh. Asachi Technical University of Iași	2019
Onache Mădălin Daniel	University of Piteşti	2019
Goglea Alexandru Nicolae	University of Piteşti	2018
Gîbu Marius	University Politehnica of Bucharest	2018
Ghineț Dragoș	Technical University of Cluj Napoca	2018
Postariuc Mihai	1 Decembrie 1918 University of Alba Iulia	2018
Radu Vadim-Florin	University Politehnica of Bucharest	2018
Horbuli Mihnea-Gheorghe	University Politehnica of Bucharest	2018
Miron Cristi	Ştefan cel Mare University of Suceava	2018
Zamfirică Vlad-Andrei	University of Piteşti	2018
Condurache Alexandru	University of Piteşti	2018
Maghiar Simon	University of Oradea	2018
Lengyel Karoly	Technical University of Cluj Napoca	2018
Butean Fabian Manuel	Politehnica University of Timişoara	2018
Neamți Petrică Ovidiu	Politehnica University of Timişoara	2018
Bilius Alexandru	Ştefan cel Mare University of Suceava	2018
Cojocariu Gheorghe	Ştefan cel Mare University of Suceava	2017
Horbuli Mihnea	University Politehnica of Bucharest	2017
Coca Octavian	Technical University of Cluj Napoca	2017
Anechiței-Diatcu Gavril-Cristian	Ştefan cel Mare University of Suceava	2017
Atănăsoaiei Marian	Ştefan cel Mare University of Suceava	2017
Condurache Alexandru	University of Piteşti	2017
Igna Gheorghe	Politehnica University of Timişoara	2017
Postariuc Mihai	1 Decembrie 1918 University of Alba Iulia	2017
Goglea Alexandru	University of Piteşti	2017

Ion Andrei	University of Piteşti	2017
Mihalache Bogdan	Gh. Asachi Technical University of Iași	2017
Catrinoiu Constantin	Politehnica University of Timişoara	2017
Dumitrescu Octavian	1 Decembrie 1918 University of Alba Iulia	2017
Damian Brîndușa	University Politehnica of Bucharest	2017
Ghinet Dragos	Technical University of Cluj Napoca	2017
Radu Vadim-Florin	University Politehnica of Bucharest	2017
Zirbo Vlad	Technical University of Cluj Napoca	2017
Voina Radu	Technical University of Cluj-Napoca	2016
Cocan Nicolae	Lucian Blaga University of Sibiu	2016
Gîbu Marius Andrei	University Politehnica of Bucharest	2016
Cojocariu Gheorghe	Ştefan cel Mare University of Suceava	2016
Dumitrache Florin	Transilvania University of Braşov	2016
Paranici Andras	University of Oradea	2016
Anechitei-Diacu Gavril	Ştefan cel Mare University of Suceava	2016
Racheru Alexandru	Politehnica University of Timişoara	2016
Cocan Alexandru	Lucian Blaga University of Sibiu	2016
Goglea Alexandru	University of Piteşti	2016
Onofrei Șerban	Gh. Asachi Technical University of Iaşi	2016
Serghie Andrei	Ştefan cel Mare University of Suceava	2016
Iliescu Mihai	University Politehnica of Bucharest	2016
Căpățînă Mihai	Lucian Blaga University of Sibiu	2016
Teodor Luchian	Ştefan cel Mare University of Suceava	2015
Maranciuc Florin	Ştefan cel Mare University of Suceava	2015
Moise Mădălin	University of Piteşti	2015
Paranici Andras	University Of Oradea	2015
Cojocariu Gheorghe	Ştefan cel Mare University of Suceava	2015
Butaru Traian	University Politehnica of Bucharest	2015
Marin Ionuț	University of Piteşti	2015
Cocan Nicolae	Lucian Blaga University of Sibiu	2015
Burta Andrei	Politehnica University of Timişoara	2015
Dumitrache Florin	Transilvania University of Braşov	2015
Iliescu Mihai	University Politehnica of Bucharest	2015
Voina Radu	Technical University of Cluj-Napoca	2015
Eduard Grigoraş	Ştefan cel Mare University of Suceava	2014
Alexandru Mihai Ilie	Technical University of Cluj-Napoca	2014
Ovidiu Timoficiuc	Ştefan cel Mare University of Suceava	2014
Mădălin Moise	University of Piteşti	2014
Teodor Luchian	Ştefan cel Mare University of Suceava	2014
Robert Dobre	University Politehnica of Bucharest	2014
Radu Ciocovanu	Gh. Asachi Technical University of Iaşi	2014

Daniel Gheorghe	Politehnica University of Timişoara	2014
Traian Butaru	University Politehnica of Bucharest	2014
Bostan Adrian	University Politehnica of Bucharest	2013
Bota Claudiu	Politehnica University of Timişoara	2013
Ilie Mihai	Technical University of Cluj-Napoca	2013
Timoficiuc Ovidiu	Ştefan cel Mare University of Suceava	2013
Olenici Alexandru	Technical University of Cluj-Napoca	2013
Sofîlca Ionuţ-Bogdan	1 Decembrie 1918 University of Alba Iulia	2013
Grigoraş Eduard	Ştefan cel Mare University of Suceava	2013
Chitic Mihail	Transilvania University of Braşov	2013
Petric Cristian	Politehnica University of Timişoara	2013
Cervis Alexandru	Maritime University of Constanţa	2013
Moise Mădălin	University of Piteşti	2013
Lăcătuş Daniel	University Politehnica of Bucharest	2013
Aldea Alin	University of Piteşti	2012
Turdean Mihai	Technical University of Cluj-Napoca	2012
Andrieş Lucian	Ştefan cel Mare University of Suceava	2012
Avădanii Alexandru	University Politehnica of Bucharest	2012
Mares Mihai	University of Piteşti	2012
Marin Marian	University of Piteşti	2012
Burgheaua Mihai	Ştefan cel Mare University of Suceava	2012
Tănase Mihai	University Politehnica of Bucharest	2012
Boţilă Alexandru	Politehnica University of Timişoara	2012
Ţibuleac Cătălin	University Politehnica of Bucharest	2012
Gordan Cristian	Politehnica University of Timişoara	2012
Antonovici Dorin	Ştefan cel Mare University of Suceava	2012
Ardelean Mihaela	Politehnica University of Timişoara	2012
Ştefan Andrei	University Politehnica of Bucharest	2012
Precup Călin	Politehnica University of Timişoara	2011
Antonovici Dorin	Ştefan cel Mare University of Suceava	2011
Mareş Mihai	University of Piteşti	2011
Gordan Cristian	Politehnica University of Timişoara	2011
Burghea Mihai	Ştefan cel Mare University of Suceava	2011
Crăciun Gabriel	Politehnica University of Timişoara	2011
Ţibuleac Cătălin	University Politehnica of Bucharest	2011
Bostan Adrian	University Politehnica of Bucharest	2011
Fiastru Bogdan	Technical University of Cluj-Napoca	2011
Aldea Alin	University of Piteşti	2011
Andrieş Lucian	Ştefan cel Mare University of Suceava	2011
Caracaţeanu Cătălin	Dunărea de Jos University of Galaţi	2011
Dungă Tudor Dan	Politehnica University of Timişoara	2010

Pică Zamfir	Technical University of Cluj-Napoca	2010
Gross Péter	BME Budapest	2010
Antonovici Dorin	Ştefan cel Mare University of Suceava	2010
Condrea Daniel	Ştefan cel Mare University of Suceava	2010
Lupuţ Cătălin	Politehnica University of Timişoara	2010
Banciu Alexandru	University Politehnica of Bucharest	2010
Fülöp Krisztián	BME Budapest	2010
Tudose Mihai Liviu	University Politehnica of Bucharest	2010
Burgheaua Mihai	Ştefan cel Mare University of Suceava	2010
Knizel Alexandru	Politehnica University of Timişoara	2010
Pandelică Ovidiu	University of Piteşti	2010
Caracaţeanu Cătălin	Dunărea de Jos University of Galaţi	2010
Ţibuleac Cătălin	University Politehnica of Bucharest	2010
Blănaru Andrei	Transilvania University of Braşov	2010
Malinetescu Adrian	North University of Baia Mare	2010
Ungureanu Vlad	Transilvania University of Braşov	2010

TIE 2021 Participants

Transilvania University of Braşov

University Politehnica of Bucharest

Technical University of Cluj-Napoca

University of Craiova

Dunărea de Jos University of Galaţi

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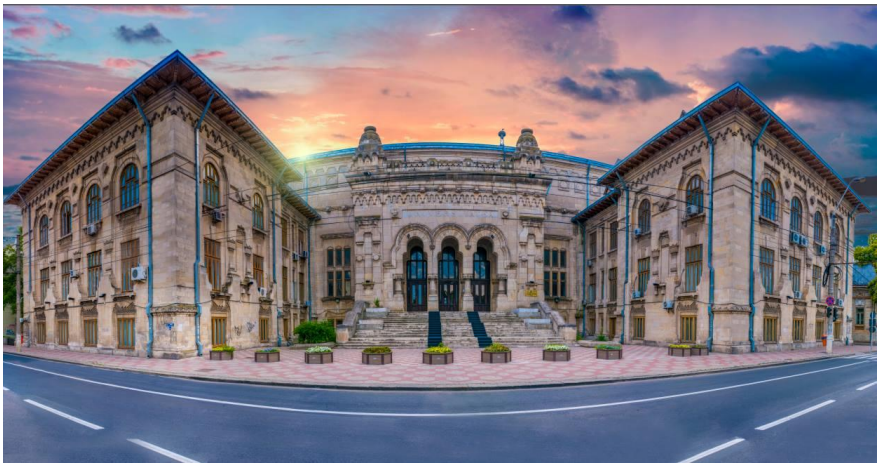

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The Electronic Industry Week Central and South Eastern Europe

International Symposium for Design and Technology in Electronics Packaging

- Conference & Exhibition -

27th Edition, October 27-29, 2021

Wednesday, October 27
EEST | GMT +3h

09:00 – 12:00	**Strategic Partnership for Education Workshop**
12:00 – 12:45	**TIE 2021 subject demystification**
12:45 – 14:30	**TIE and TIEplus Awarding ceremony**
14:30 – 16:00	***Lunch Break***
16:00 – 18:30	**Professional Development Hours**
18:30 – 20:30	**IEEE – Hu & RO EPS&NTC Joint Chapter Meeting**

Introduction to EU Pact for Skills

About the presenter: Petr Dolejsi is the Mobility & Sustainable Transport Director at ACEA. He started his career in the public service, leaving the Ministry for Regional Development of the Czech Republic to be Head of Unit to the Permanent Representation in Brussels in 2004. He became member of the Presidency team in 2009 chairing the Competitiveness and Growth working party of the Council. In 2010, he joined ACEA and became a Director for Mobility and Sustainable transport, with a specific focus on CO_2 policy, industrial policy, and alternative powertrains. He has graduated Ph.D. in Economics and Social policy at the University of Economics in Prague, following the Masters´ degree in Economics and Reginal policy.

Petr Dolejsi, PhD
Mobility & Sustainable Transport Director
European Automobile Manufacturers' Association (ACEA)
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Introduction to Automotive Skills Alliance - ASA

About the presenter: Jakub Stolfa is the program manager and academic staff member at VSB – Technical University of Ostrava, where he has also received his Ph.D. Here he is responsible for the skills agenda in the Automotive ecosystem. He coordinates the DRIVES project, a Blueprint for the Automotive sector, and is a WP leader in the ALBATTS project. His recent activities focus on a sustainable and pragmatic approach towards the skills agenda in Automotive Ecosystem, establishing the Automotive Sector Skills Alliance, as Pact for Skills in Automotive Ecosystem. He has experience in project/program management, development of training and educational programs, technical background in Informatics and Mechatronics in the Automotive ecosystem.

Jakub Stolfa, PhD
Program manager and academic staff member
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Joint Event Workshop HR

Strategic Partnership for Education ONLINE
Wednesday, October 27, 2021 - 09:00 – 12:00
EEST | GMT +3h

9:00 - 10:00 **Workshop opening, Strategic Partnership for Education**
Chairman*: *Dan PITICĂ, Ph.D., Vice-rector at Technical University of Cluj-Napoca
Co-chair: Florin MUREȘAN, General Manager Miele Romania

Strategic Partnership for Education 5.0
Aurelia FLOREA, HR Director Miele Romania and Working Group Coordinator - Industry and Academic Environment
Q&A Session

10:00 -10:30 **EU Pact for Skills**
Chairman: Paul SVASTA, University Politehnica of Bucharest, Association for Promoting Electronics Technology, Romania
Co-chair: Marius TUDOR, former General Secretary Automotive Manufacturers and Importers Association (APIA), Romania

Introduction to EU Pact for Skills
Petr DOLEJSI, Ph.D., Director Mobility & Sustainable Transport at European Automobile Manufacturers' Association - ACEA

Introduction to Automotive Skills Alliance - ASA
Jakub ŠTOLFA, Ph.D., Program manager and academic staff member at VSB – Technical University of Ostrava

10:30 -11:50 **DRIVES workshop**
Chairman: Christian BAIO, Project Manager, Strategic member for Automotive EU project, Italy
Co-chair: Utimia MADALENO, Senior Consultant, part of DRIVES Framework for future skills needs of the automotive sector, Portugal

EU project DRIVES: coding Best Practices for skills development in the Automotive sector: focus on Romania
Christian BAIO, Project Manager, Strategic member for Automotive EU project, Italy
Best practices focus on Romania presentations
Cornel BERTEA HANGANU, Founder and President of "Școala Fără Șomeri" (School without unemployed)
Ramona ŢIŢEIU, Manager, The Kronstadt German Vocational School (SPGK)

11:50-12:00 **Summary and further actions held by session chairs**

Professional Development Hours

Wednesday, October 27, 15:00 – 18:30

Chair: **Attila BONYÁR**, Budapest University of Technology and Economics, Hungary
Co-Chair: **Norocel CODREANU,** University Politehnica of Bucharest, Romania

New Results on Electromigration Modeling – A Departure from Blech's Theory"

Abstract:

We have recently developed a multi-physics-based general coupling theory for electromigration (J. Appl. Phys. 125, 105101, 2019). The results show the mechanical stress is significantly less than the existing literature solutions. In addition, the vacancy concentration gradient plays an important role in formulating electromigration problems. We revisited Blech's theory and a new threshold criterion for electromigration failure has been developed. This is a major departure from the Blech's theory, and the preliminary results show the predicted results are consistent with the Blech's original test data.

Presenter: Xuejun Fan is a Regents' Professor of Texas State University System, and a Mary Ann and Lawrence E. Faust Endowed Professor at Lamar University, Beaumont, Texas. Dr. Fan is an IEEE Fellow, and an IEEE Distinguished Lecturer. He currently serves as a member-at-large of the IEEE Electronic Packaging Society (EPS) Board of Governors. Dr. Fan gained significant experience in the microelectronics industry between 1997 and 2007, at IME, Philips and Intel. His current areas of expertise include characterization, modeling and reliability of materials, components, and systems in micro- and opto-electronics manufacturing and packaging. Dr. Fan received the Outstanding Sustained Technical Contribution Award in 2017, and Exceptional Technical Achievement Award in 2011, from the IEEE Electronic Packaging Society. In his early academia career in China, Dr. Fan was the recipient of a Young Faculty Award from the Fok Ying-Tung Education Foundation in 1994, and the nominee for the title of "Ten Outstanding Youth of China" in 1991. He was one of the youngest full professors in China at the age of 27 at Taiyuan University of Technology in 1991.

Prof. Xuejun Fan, PhD
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Material characterization techniques for the microelectronics industry

Abstract:

Today, the primary material characterization techniques – like metallographic cross-sectioning, optical and scanning electron microscopy, focused ion beam, X-ray diffraction, and transmission electron microscopy have become an essential tool in the analysis of the different failure mechanisms and in the materials design for microelectronics. The well-known but still existing failures resulting from material incompatibilities (like tin-whisker growth or electrochemical migration) still challenge the engineers in microelectronics. Besides, new material systems are continuously developed – like the different composite materials. The course will demonstrate how the various material characterization techniques are applied for assessing the material originated failures and how they can aid the engineers in the microelectronics industry. The presented course material is a part of the METIS project, which implements a new strategic approach to sectoral cooperation on skills for microelectronics by involving the key players across industry, education & training, and regulatory/certification bodies.

Presenter: Balázs Illés received the M.Sc. degree (in 2005), the Ph.D. degree (in 2009), and the dr. habil. degree (2015) in electrical engineering from Budapest University of Technology and Economics. In 2019 he got the DSc from the Hungarian Academy of Science, and he became the full professor at Budapest University of Technology and Economics. He has been involved in metallurgy, heat and mass transfer, electronics assembling technologies, and reliability of electronic equipment. He has authored / co-authored over 150 articles and two books.

Prof. Balázs ILLÉS, PhD

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IEEE Meeting of Hungary/Romania Section Joint EPS & NTC Chapter, EP21/NANO42

Wednesday, October 27, 2021 - 18:30 – 20:30
EEST | GMT +3h

18:30 - 18:40 **Welcome, introduction of the agenda and vote on acceptance**
Norocel Codreanu (Vice-Chair, Moderator)

18:40 - 19:00 **Chapter Chair's yearly report**
Attila Bonyár (Chapter Chair)

19:00 - 19:20 **Chapter elections**
Paul Svasta (Nominator)

19:20 - 19:40 **Conference progress report - ESTC 2022, Sibiu**
Paul Svasta, Ovidiu Aurel Pop (Conference General and Executive Chairs)

19:40 - 20:00 **Conference progress report - SIITME 2022, Bucharest**
Ciprian Ionescu (Organizing Co-Chair)

20:00 - 20:30 **Panel discussion:**
"Important Project of Common European Interest on Microelectronics"
Andreas Wild, Cosmin Moisa (Panellists) - Working Group under the Aegis of the Romanian Academy

Invited persons*:

Jim Morris, IEEE NTC President, US

Christopher Bailey, IEEE EPS President, University of Greenwich, UK

Kitty Pearsall, IEEE EPS President Elect

Denise Manning, IEEE EPS Executive Director

Tanja Braun, Fraunhofer IZM, Berlin, IEEE EPS Director Region 8, Germany

Lucian Toma, IEEE Romania Section chair, RO

Levente Kovács, IEEE Hungary Section chair, HU

Toni Mattila, IEEE EPS Chapter Program Director, Finland

Claudius Dan, Gabriel Dima, Carmen Moldovan, Elena Helerea, Eden Mamut, Romanian IEEE NTC chapter

Cristian Negrescu, Association IEEE Romania Member

Klaus-Juergen Wolter, TU Dresden, IEEE EPS, Germany

Heinz Wohlrabe, TU Dresden, IEEE EPS, Germany

Detlef Bonfert, Fraunhofer – EMFT, Munich, IEEE EPS, Germany

Christian von Albrichsfeld, Country Head & GM Continental Automotive Romania

Cristian Gavrilescu, Continental Automotive Romania, SIITME General Industrial Co-Chair

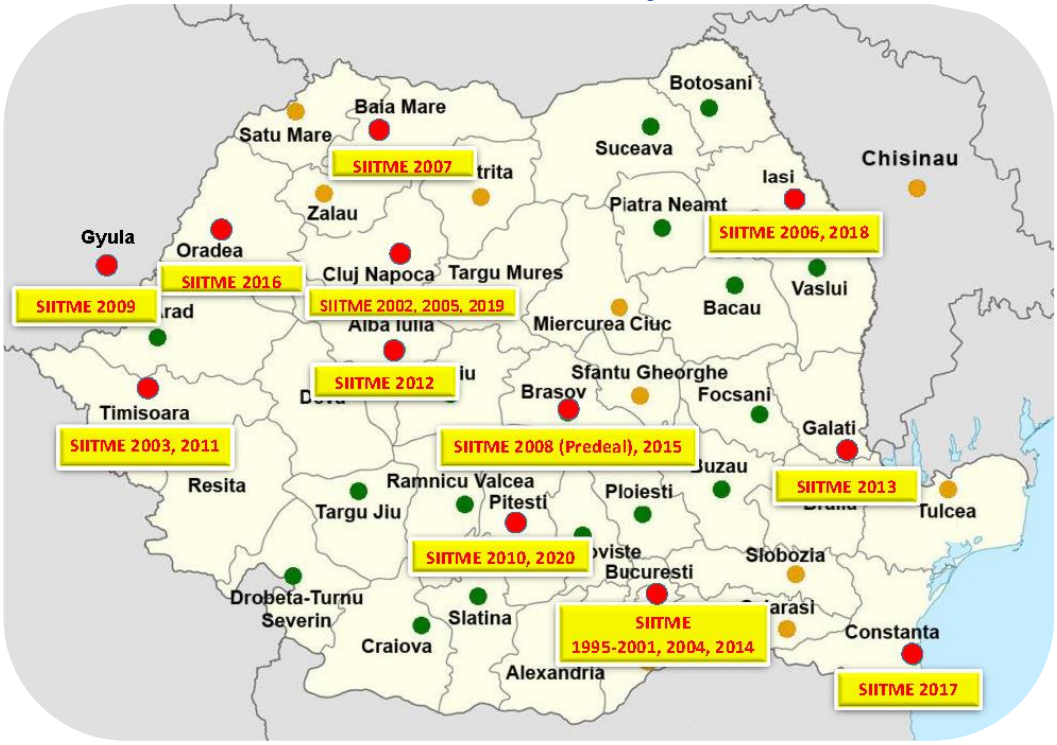
Ionuț Muntean, Robert Bosch SRL, Romania

Marian Petrescu, Head of Location Iasi - Continental Automotive Romania

Vlad Vinatu, Public Private Partnership**,** Continental Automotive Romania, PPF

***All members of IEEE Hu&Ro EPS & NTC chapter**

SIITME History



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SIITME'96, Al II-lea Seminar Internaţional de Informatică Tehnologică în domeniul Fabricaţiei Modulelor electronice, 23-24 Octombrie 1996, Bucureşti, 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, Timişoara, 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, Iaşi, 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, Piteşti, Romania.

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

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

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

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

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

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

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

2019 IEEE 25th International Symposium for Design and Technology in Electronic Packaging - October 23–26, 2019, Cluj-Napoca, Romania

2020 IEEE 26th International Symposium for Design and Technology in Electronic Packaging - October 21–24, 2020, Pitești, Romania – On-line edition

Thursday, October 27
EEST | GMT +3h

08:45 - 09:10	Opening ceremony
09:15 - 11:10	Plenary Oral Session 1
11:20 - 13:30	Plenary Oral Session 2
13:30 – 14:20	*Lunch Break*
14:20 - 14:50	Industrial Session 1
15:00 - 16:30	Poster Session 1
16:40 - 18:55	Plenary Oral Session 3
19:00 - 20:30	Networking IEEE, IMAPS Student Branch Chapters

Friday, October 28
EEST | GMT +3h

08:30 - 10:00	Poster Session 2
10:10 - 10:50	Industrial session 2
10:50 - 12.20	Plenary Oral Session 4
12:20 - 13:00	Industrial Workshop
13:00 – 14:00	*Lunch Break*
14:00 - 14:30	Special Session
14:40 - 16:10	Poster Session 3
16:20 - 17:50	Plenary Oral Session 5
17:50 - 19:30	Steering Committee Meeting
19:30 - 20:30	Awarding ceremony & Welcome to SIITME 2022 & ESTC2022

Networking IEEE, IMAPS Student Branch Chapters

Thursday, October 28, 19:00 - 20:30

19:00 – 19:05: Welcome, introduction of the agenda

Paul SVASTA – IEEE SBC UPB Advisor

19:05 – 19:40: Student Chapter 's activities presentation

- IEEE EPS SBC – Mircea CĂLIN, University Politehnica of Bucharest
- IEEE EPS SBC – Elena STETCO, Technical University of Cluj-Napoca
- IEEE EPS SBC – Tudor LEAMPĂR, Gheorghe Asachi Technical University of Iași
- IEEE EPS SBC – Bianca LAZĂR, Politehnica University of Timișoara
- IEEE NTC SBC – Mădălin MOISE, University Politehnica of Bucharest
- IMAPS Romania Chapter, Student Chapter – Viorel NICOLAU, Dunărea de Jos University of Galați

19:40 – 20:00: Open Discussions

Paul SVASTA – Moderator

- Ongoing projects between Chapters
- Creating a technological and informational core for electronics within student branch chapters - creating a common resource base for students
- Future opportunities for collaboration – how Student Chapters can be involved in the activities of the EPS HU & RO Chapter.
- Open to collaboration between academia and industry – research projects
- Student Chapter Continuation Program (SCCP) and Chapters requirements

Invited persons:

Kitty Pearsall, President elect. of the IEEE Electronics Packaging Society
Klaus-Jürgen Wolter, Technische Universität Dresden
Christopher Bailey, President of the IEEE Electronics Packaging Society
Tanja Braun, IEEE Electronics Packaging Society Region 8 Programs Director
Fetene Mulugeta, IEEE EPS SBC Advisor, The University in Addis Ababa, Ethiopia
Bereket Ngussie Bekele, IEEE EPS SBC Chair, The University in Addis Ababa, Ethiopia
Attila Bonyár, IEEE Hu&Ro EPS&NTC Chapter Chair
Dan Ciocirlan, IEEE Chair of University POLITEHNICA of Bucharest IEEE Student Branch
Rodica Constantinescu, Vice-dean of ETTI University POLITEHNICA of Bucharest
Denise Manning, IEEE Electronics Packaging Society Executive Director
Toni Mattila, Director of IEEE Electronics Packaging Society Chapter Programs
Cosmin Moisa, SIITME/ TIE Industry Co-Chair
Dan Pitica, Pro – Rector TUC-N
Ovidiu Pop, Vice-dean of ETTI TUC-N
Nihal Sinnadurai, IMAPS Europe International Ambassador
Andrew Tay - Electronics Packaging Society Program Director, Student Programs
Lucian Toma, IEEE Romania Section Chapter Chair

SIITME 2021 Keynote speakers

(in alphabetical order)

Name: **Cristina Mihaela Drăgan**
***Job position*:** **Thermal Analyst Expert**
Company: **Continental Automotive Timisoara**

***e-mail*: cristina.dragan@continental-corporation.com**

***Presentation*: "Car Environment Conditions vs. Thermal Chamber"**

Cristina Mihaela Drăgan is a Thermal Analyst Expert in the Continental Automotive Company, in Advanced Driver Assistance Systems department. Her experience is in thermal management of different electronic control unit for different environment conditions. Additional to thermal management experience, she has experience in Design for Six Sigma. Her thermal studies include passive cooling solutions and active solutions: liquid cooling, fan cooling, heat pipes, and Peltier. She holds bachelor's and master's degree in Mechanical Faculty at the University Politehnica Timisoara, Romania and currently she is enrolled for PhD in Thermal Optimization for Electronic Control Units in Automotive Industry.

Abstract:

In car environment conditions we have as boundary conditions the solar radiation and the ambient temperature. Additional to these we have the surrounding parts, like brackets, protection covers and other electronic units, which will affect a lot the thermal behaviour. In thermal chamber there is only ambient temperature and a turbulent unknown airflow behaviour, which vary from thermal chamber to thermal chamber and from one testing position to another testing position. In this presentation we will check the difference in thermal behaviour for both conditions and decide if these two conditions are substituting each other or not. Also, the paper presents the main steps in thermal evaluation of an electronic unit.

Name:	**Prof. Dr.-Ing. Jörg Franke**
Job position:	**Head of Institute for Factory Automation and Production Systems (FAPS)**
Company:	**University of Erlangen-Nuremberg (FAU) Institute for Factory Automation and Production Systems (FAPS)**
e-mail:	**Joerg.Franke@faps.fau.de**
Presentation:	**"MID Technologies for Microelectronic Packaging"**

Prof. Jörg Franke heads the Institute for Factory Automation and Production Systems (FAPS) at the Friedrich-Alexander-University of Erlangen-Nuremberg since 2009. He focuses the research on manufacturing of mechatronic products, starting from packaging of electronic circuits, additive manufacturing of circuit carriers, printed electronics technology, assembly of electric drives engines, automation solutions and ending with engineering, planning and simulation of complex mechatronic systems.

Previously, he held various management positions with global responsibility e.g. at McKinsey&Co, Robert Bosch GmbH, ZF Lenksysteme GmbH, Schaeffler AG and ABM Greiffenberger GmbH. Jörg Franke studied and prepared his doctor's thesis in the field of 3D-MID technology at the Friedrich-Alexander-University of Erlangen-Nuremberg.

Amongst other honorary assignments Jörg Franke is chairman of the board of the Research Association 3D Mechatronic Integrated Devices (3D-MID), member of the board of the Bavarian Cluster Mechatronic and Automation, the German Research Association for Assembly, Handling and Industrial Robots (WG MHI), as well as member of the International Academy for Production Technology (CIRP) and of the German Research Association of Production Technology (WGP). Beside that he is reviewer of numerous research funding associations as well as member of various conference program committees and editorial boards of technical journals.

Abstract:

In the light of mega trends like digitalization and autonomous driving, electronic modules gain further importance by increasing demand for efficient functional elec-tronic systems. Regarding standardization and reduced production costs, state-of-the-art methods for producing electronic assemblies, which include additive and subtractive processes, are still unsurpassed. However, conventional electronic packaging uses typically two-dimensional substrates and regular designs. When it comes to microelectronics in particular, there is rising need for both miniaturization and high functional integration. These factors are often limited by two-dimensional space.

The great advantage of 3D-MID technologies compared to conventional circuit carri-er technologies is the high degree of integration solutions for a wide variety of func-tions, accompanied by components and structures with decreasing size. On the one hand, electrical functions can be realized, but on the other hand, also thermal, mag-netical, fluidical or optical integration options are possible. 3D-MID are no longer just Molded Interconnected Devices based on thermoplastics. By extending the term to Mechatronic Integrated Devices, it is taken into account that three-dimensional parts with integrated conductive structures can also be produced with other materials like ceramics, and hence can be metallized with new processes. These do not only ena-ble miniaturization and functional integration, they also shorten manufacturing chains, reduce weight, and give higher freedom of design.

A few years ago, there was hardly any way around laser direct structuring (LDS) with 3D circuit carriers for producing 3D-MID. Now there is a broad portfolio of 3D capa-ble manufacturing processes, such as FDM with integrated Piezojet printing or plasma-based copper coating. Hence, using printed electronics may no longer make subsequent SMD assembly necessary, since the integration and interconnection of SMT components can be realized in combination with the metallization process in the same machine.

In order to be able to assess the reliability of these new types of 3D-MID technolo-gies, a major challenge lies in generating valid test and inspection methods and adapting and standardizing existing procedures to new capabilities and external re-quirements. This is the basis for opening up a broad market regarding the use of new technologies like 3D-MID for microelectronic packaging.

Name: **Theodor Maier**
Job position: **Head of Microelectronic Integration**
Company: **Continental Automotive GmbH**

e-mail: **theodor.maier@continental-corporation.com**

Presentation: **"New Architecture for SW defined vehicle and effects on Semiconductor Components"**

I have more than 30 years' experience in automotive electronics and semiconductor development.

Currently I'm responsible Microelectronic Integration within Continental.

There I'm responsible for the development of customized semiconductor components and in charge of the semiconductor strategy and roadmap. Next this I'm principle expert for automotive semiconductor technologies and design.

I began my career as a design engineer with Siemens and have held various technical and R&D management positions prior taking over the Lead of Microelectronic Integration.

Abstract:

The Presentation will provide some insights into new architecture solutions and how we can tackle the demand for more flexibility and sustainability in upcomming mobility systems.

Name: **Oren Manor**
Job position: **Director, Business Development**
Company: **Siemens**

e-mail: **oren_manor@mentor.com**

Presentation: **"Why is now the right time to start digitalizing electronics manufacturing with an end-to-end holistic solution"**

Oren Manor (43) is the Electronics Manufacturing Business Director at Mentor Graphics' Valor Division. Oren joined the Valor Division of Mentor Graphics in 2012 and has served in a number of key business positions including Partner Management and Manufacturing Engineering Business Development. Manor previously served as VP of Sales and Marketing at Signature-IT (www.signature-it.com), a software company providing data management solutions for industrial companies, and held senior sales and marketing positions at Jungo (www.jungo.com) – a NDS company. He holds a B.Sc. in Computer Science and Economics from Tel-Aviv University. Passionate about technology and an evangelist for automating electronics manufacturing Oren is a frequent speaker at Siemens PLM and industry events. After living in Stockholm, London, Philadelphia and Chicago, Oren resides in Tel Aviv.

Abstract:

In this session we will explore the key global trends impacting the Electronics Manufacturing and PCB Assembly Industry and the challenges that they bring to manufacturers – including the global shortage in components, dramatic increase in PCB complexity, significant increase in New Product Introductions (NPIs) and Product Revisions and decrease in lot sizes up to "lot-size-one". We will demonstrate why digitalization of the electronics factory is the most effective solution to many of these challenges and why building a holistic end-to-end digitalization strategy can provide the most significant return-on-investment (ROI).

Name: **Pekka Sipilä**
Job position: **Head of Next Generation Electronics**
Company: **Continental Automotive GmbH**

e-mail: **pekka.sipilae@continental-corporation.com**

Presentation: **"About technology trends and automotive electronics"**

Pekka Sipilä received his M.Sc. in electrical engineering from Helsinki University of Technology in 2006, and his Ph.D. from Technical University of Munich in 2011.

He started his carrier at VTT Technical Research Center of Finland in Espoo in early 2000 in various measurement technology and sensor related R&D topics. In 2018 after serving more than 10 years at General Electric Global Research, Munich, with the experience of serving a broad spectrum of industries, Pekka Sipilä moved to Continental Automotive GmbH in Regensburg. Since then, his professional career has been related to R&D in automotive electronics in general. From January 2020 onwards, he has held the position of Head of Next Generation Electronics at Continental Automotive, where his role has been to identify and co-ordinate future-oriented R&D efforts around automotive electronics.

Abstract:

Seeing into the future is a highly appreciated trait, especially in corporate R&D, to ensure efficient use of resources, and to enable optimal response to changing and emerging market conditions. Trend analysis is one widely established method to be, potentially, successful in this endeavouring task.

In this keynote speech, I will provide a look at technology trends, with focus of automotive electronics. With different examples, I will highlight challenges of analysing technology trends, as well as some success stories. Particularities of automotive sector when developing future electronics are also mentioned. The goal of the speech is to fuel the thought process of any listener who strives to predict the future.

Name: **Dr. Radu Sporea**
Job position: **Senior lecturer (associated professor)**
Company: **Advanced Technology Institute, Department of Electrical and Electronic Engineering, University of Surrey**
e-mail: **r.a.sporea@surrey.ac.uk**

***Presentation*:** **„Thin film transistors, sensors and applications to human-computer interfaces“**

Dr. Radu Sporea is Senior Lecturer (Associate Professor) in Power Electronics and Semiconductor Devices at the Advanced Technology Institute (ATI), University of Surrey and holds an EPSRC Early Career Fellowship (2021-2026). Prior to this appointment he was Royal Academy of Engineering Academic Research Fellow (2011-2016), EPSRC PhD+ Fellow (2010-2011) and PhD researcher (2006 - 2010) in the same centre. Before joining Surrey, Radu has studied Computer Systems Engineering at “Politehnica” University, Bucharest, Romania, and has worked as a Design Engineer for Catalyst Semiconductor Romania, now part of ON Semiconductor, on ultra-low-power CMOS analog circuits. Current research in Radu's team focuses on three main topics: 1. Advanced semiconductor device design, including transistors with increased tolerance to fabrication variability, improved energy efficiency and high gain. 2. Large area sensors and sensor arrays for smart environments, focusing on multi-modal low-cost integration in commercial manufacturing platforms and mass-market products. 3. Paper-based electronics and physical-digital interaction.

Abstract:

Printed and flexible electronics are making their way into an ever increasing range of applications. For their success, innovation at all scales is required. This talk outlines recent developments in our team at two levels. First, newly-developed multi-gate, contact-controlled transistors contribute versatile functionality and tolerance to process variability. Next, within the application realm, a new human-computer interaction platform is proposed: the augmented book (or a-book) brings the richness of digital content to physical books through easy-intuitive and robust electronic systems.

Industrial Workshop

Friday, October 29, 12:20 - 13:00

Name: Raul IONEL
Associate Professor
Measurements and Optical
Electronics Dept., University Politehnica
Timişoara, Romania
e-mail: raul.ionel@upt.ro
Title of the Presentation:
"Flying Probe component programming by Flash Runner NXG integration"

Biography: Raul IONEL received his B.S. degree in the science of systems and computers and the Ph. D. degree in electronics from the University Politehnica Timişoara, Romania in 2005 and 2008, respectively. He did research work in various institutions, particularly with the Power Plant Technology Institute, Stuttgart University, Germany (2007), at the Karlsruhe Technical University, Germany (2012), and the Technical University Delft, TU Delft, Holland (2012). Currently, his research interests include instrumentation and measurement principles and techniques, signal processing, virtual instrumentation, boundary scan technologies, and development of industrial advanced solutions.

Name: Caius TĂNASIE
Technical Manager of Test Dept. Alfa Test S.R.L.
Timişoara, Romania
e-mail: caius.tanasie@alfatest.ro
Title of the Presentation:
"Flying Probe component programming by Flash Runner NXG integration"

Biography: Caius TANASIE received his B.S. degree in the electronics from the University Politehnica Timişoara, Romania in 1997. Before Alfa Test he worked in Solectron (later Flextronics) in Timişoara, from 2000 to 2009. Solectron was a multinational electronics manufacturing services company, acquired later by Flextronics. Caius TANASIE held different position here from New Product Introduction Test Engineer to Site Test Manager. In Alfa Test he is responsible for coordinating the technical team responsible for test application and equipment support. Alfa Test is a Romanian company that offer complete solutions for all stages of inspection & test: AOI, X-Ray, Flying Probe, In-Circuit Test, Boundary Scan and Functional Test for the electronics companies in Central and Eastern Europe.

Abstract: This demonstration presents a solution for integrating the stand-alone ***Flash Runner NXG programmer (FRNXG)*** with the ***Takaya APT Flying Probe machine (FP, model APT1400F)***. The proposed approach extends the APT1400F capabilities by offering the advantage of programming FRNXG supported components, using the FP mobile arms. The programming procedure can be included as a single step within the classical FP test program. Resulting data is transmitted back to the FP interface and is presented in the default test logfiles. To demonstrate the concept viability, limitations and requirements, experiments performed on multiple component types, over several weeks, were analyzed and discussed. The proposed concept was successfully tested for ***three target components on panelized boards***: the Atmel ***ATMEGA324P*** microcontroller (over SPI protocol), the NXP ***MC9S08LL64*** microcontroller (over BDM protocol) and the Microchip ***24LCS21A*** serial memory (over I^2C protocol).

Advantages & novelty: The novelty of our work arises from the characteristics of flexibility, customization and performances of an integration project which demonstrates how device programming procedures can be implemented by means of the FP mobile arms. Specifically, we have integrated the FRNXG industrial programmer (from SMH Technologies) with the Takaya APT1400F. With this approach, we aim to expand the technical capabilities of the APT1400F by allowing the user to perform additional device flashing operations during the dedicated flying probe test.

Fig. 1 presents the general integration concept. This workshop demonstrates the functionality of this application.

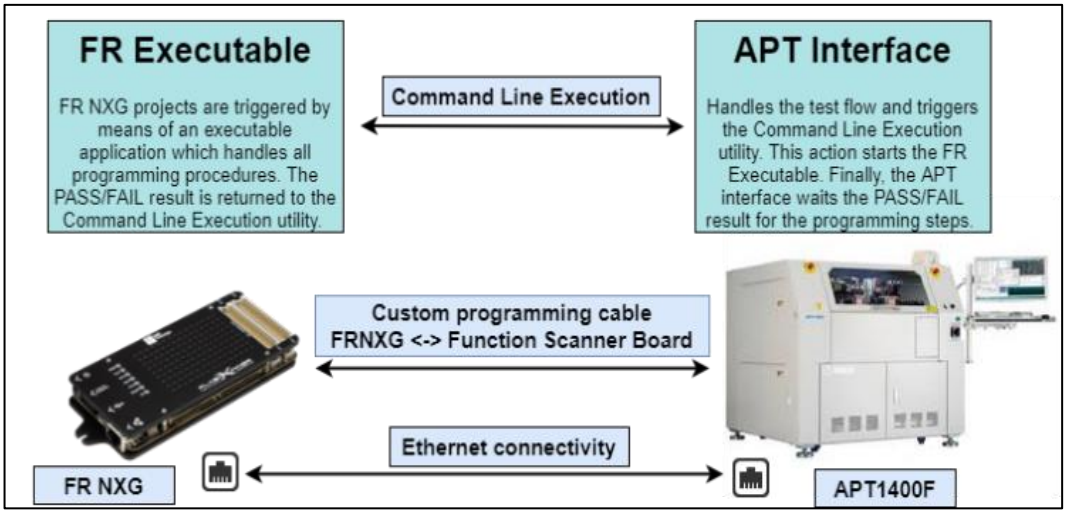

Fig. 1. Schematics of the proposed system. From a software perspective, there are two applications involved in the programming process. The main APT interface, specific to the Takaya FP, will trigger a call to a third-party executable capable of operating the is the FRNXG. The communication method between these two software instances is called Command Line Execution (CLE), for which a separate FP license is necessary.

Special Session

Friday, October 28, 14:00 - 14:30

Special Session Speaker:

***Name*:** **Daniel CIUCUR**

***Job position*:** **Psychologist, PhD**

***Company*:** **CIUCUR & CIUCUR**

***e-mail*:** **daniel@ciucur.ro**

danielciucur@yahoo.com

***Presentation*:** **Counterproductive behaviours at work and how to avoid them**

Short CV:

- Principal Psychologist and Supervisor in the following fields: Organisational and Labour Psychology, Traffic Psychology and National Security Psychology
- Psychotherapist (using Transactional Analysis)
- Certified Process Communication Model® Trainer
- Member in the Romanian Board of Psychologists, Timis County
- Former Dean/Faculty of Psychology, "Tibiscus" University of Timisoara

Daniel Ciucur has 16 years of Transactional Analysis psychotherapy practice, which enables him to find the roots and the solutions for different counterproductive and disfunctional human behaviours, both at work, and in private life.

Using Organisational Transactional Analysis and Process Communication Model® as psychological tools, Daniel Ciucur is helping companies to improving their employees' leaderhsip, communication and motivation skills, increasing employee retention, developing group cohesion in working teams and decreasing emotional disconfort.

Abstract:

The fundamental principle in Transactional Analysis is: I am OK and You are OK, that is we recognise and respect the intrinsic and fundamental value of every human being.

For us to behave according to this life principle, we need to have our motivators (our psychological needs) positively charged, like batteries.

When the energy in our main batteries decreases, we will feel emotional disconfort and distress and we will adopt couterproductive behaviours: overcontrolling and micromanagement, attacking and acusing other coworkers, not asuming responsabilities, manipulating, emotionally blackmailing, self discounting, etc.

We will learn about the six personality types we all have in our personality structure, and how each of these personality types is motivated in order to avoid counterproductive behaviours and distress in our relations, both at work, and in our personal life.

Programme in detail

Thursday, October 28

08:45 - 09:10 Opening ceremony, Welcome words

EEST | GMT +3h

Cristian GAVRILESCU, *Continental Automotive, Timișoara, Romania*
Aurel GONTEAN, *University Politehnica of Timișoara, Romania*
Klaus Juergen WOLTER, *TU Dresden Germany*

Thursday, October 28

09:15 - 11:10 Plenary Oral Session 1

EEST | GMT +3h

Session Chair: Pavel MACH, Technical University of Prague, Czech Republic
Session Co-Chair: Ovidiu Aurel POP, Technical University of Cluj-Napoca, Romania

09:15 KN1.1 Why is now the right time to start digitalizing electronics manufacturing with an end-to-end holistic solution
Oren Manor, Siemens

09:55 O1.1 Activation of the polyvalent functionality for the optical filters using metamaterials
Daniela Ionescu (Gh. Asachi Technical University of Iasi, Romania, Department of Telecommunications and Informational Technologies)

10:20 O1.2 Clustering of Image Data to Enhance Machine Learning Based Quality Control in THT Manufacturing
Nils Thielen (Friedrich-Alexander-University Erlangen-Nürnberg, Institute for Factory Automation and Production Systems); Zonghan Jiang (Friedrich-Alexander-University Erlangen-Nürnberg); Konstantin Schmidt (Friedrich-Alexander-Universität Erlangen-Nürnberg / Lehrstuhl FAPS); Reinhardt Seidel (Friedrich-Alexander University Erlangen-Nuremberg); Christian Voigt (Friedrich-Alexander-Universität Erlangen-Nürnberg / Lehrstuhl FAPS); Andreas Reinhardt (SEHO Systems GmbH); Jörg Franke (Institute for Factory Automation and Production Systems)

10:45 O1.3 A Non-invasive Diagnosis Tool Based on Hepatorenal Index For Hepatic Steatosis
Georgiana Simion (Politehnica University Timisoara)

Thursday, October 28

11:20 - 13:30 Plenary Oral Session 2

EEST | GMT +3h

Session Chair: Christopher BAILEY, University of Greenwich, UK
Session Co-Chair: Dan PITICĂ, Technical University of Cluj-Napoca, Romania

11:20 KN2.1 MID Technologies for Microelectronic Packaging

Jörg Franke, University of Erlangen-Nuremberg (FAU), Institute for Factory Automation and Production Systems (FAPS)

12:00 KN2.2 New Architecture for SW defined vehicle and effects on Semiconductor Components

Theodor Maier, Continental Automotive GmbH

12:40 O2.1 - Effect of Ge doping on electrochemical migration of SAC solder alloys in 0.5 M NaCl solution

Ali Gharaibeh (BME-ETT); Bálint Medgyes (BME-ETT)

13:05 O2.2 - Effect of Water on the Photovoltaic Performance of TiO2 Based Dye-Sensitized Solar Cells Using I-/I3- Redox Couple

Melinda Vajda (Politehnica University Timisoara); Daiana Albulescu (Politehnica University Timisoara); Daniel Ursu (National Institute of Research and Development for Electrochemistry and Condensed Matter); Elisei S. Ilies (Politehnica University Timișoara); Magdalena Marinca (Politehnica University of Timisoara); Aurel Gontean (Politehnica Univ. Timisoara); Nicolae Miclau (Politehnica University of Timisoara); Marinela Miclau (National Institute of Research and Development for Electrochemistry and Condensed Matter); Narcis Duteanu (Politehnica University of Timisoara)

Thursday, October 28

14:20 - 14:50 Industrial Session 1

EEST | GMT +3h

Session Chair: Viorel NICOLAU, IMAPS Romania, Dunărea de Jos University of Galați, Romania
Session Co-Chair: Bogdan MIHĂILESCU, University Politehnica of Bucharest, Romania

Continental Automotive Romania **MIELE**

Thursday, October 28

15:00 - 16:30 Poster Session 1 (Start with a pitching session*)

EEST | GMT +3h ***Each author must deliver a maximum 1 minute video presentation of her/his work. The e-Poster evaluation will take place in the assigned Room.***

Session Chair: Gabriel CHINDRIŞ, Technical University of Cluj-Napoca, Romania
Session Co-Chair: Mihai BRANZEI, University Politehnica of Bucharest, Romania
Technical assistant: Cristina LEPĂDATU, Association for Promoting Electronic Technology Bucharest

Room 1

P1.1 Covid-19 Approved Mask Detection using Mathematical Morphology
Dumitru Abrudan (UPB); Ana-Maria Dragulinescu (UPB)*; Dragos Nicolae Vizireanu (Politehnica University of Bucharest)

P1.2 Wearable 2.4GHz Antenna on Textile Substrate
Mircea-Alexandru I Călin (Polytechnic University of Bucharest)*

P1.3 Monitoring device for freight trains
Cristian Aghion (Electronics Faculty - TUIASI University)*

P1.4 Printed Antenna Structures
Iordan E Cristian (Continental Automotive)*

Room 2

P1.5 IoT module for air quality measurement
Niculescu Ana-Maria (UPB-CETTI); Moise M Vasile Madalin (UPB-CETTI)*; Pavel Daniela-Mihaela (UPB-CETTI); Elisei Nicolae (UPB-CETTI); Dumitrascu Andreea (UPB-CETTI)

P1.6 IoT-based Smart Water Management Systems
Ana-Maria Dragulinescu (UPB)*; Cristina Balaceanu (BEIA Consult & UPB); Filip-Emanuel Osiac (UPB, Beia); Roxana Roșcăneanu (UPB); Veronica Sanda Chedea (SCDVV Blaj); George Suciu (BEIA Consult & UPB); Mirel Ciprian Păun (Universitatea Maritimă Constanța); Ștefania Bucuci (Universitatea Maritimă Constanța)

P1.7 IoT Technology for Vineyard Monitoring
Mihaela E. Hnatiuc (Constanta Maritime University)*; Aurora Ranca (SCDVV MUrfatlar); Victoria Artem (SCDVV Murfatlar); Bogdan Hnatiuc (University); Sorin Sintea (University); Simona Ghita (Maritime University of Constanta)

P1.8 The Methods for Vine Disease Identification
Mihaela E. Hnatiuc (Constanta Maritime University)*; Bogdan Hnatiuc (University); Sorin Sintea (University); Simona Ghita (Maritime University of Constanta); Aurora Ranca (SCDVV Murfatlar); Victoria Artem (SCDVV Murfatlar); Bogdan-Cristian Savin (University)

Room 3

P1.9 Analysis and implementation of a band tracking system
Ionel Horea Baciu (Technical University of Cluj Napoca)*

P1.10 Testing of the Noise Measurement System for GMR Sensors
Ana Cristina Davidas (Technical University of Cluj-Napoca)*; Ovidiu A. Pop (Technical University of Cluj-Napoca); Alin Grama (Technical University of Cluj-Napoca); Elena-Mirela Stetco (Technical University of Cluj-Napoca); Traian Petrisor (Technical University of Cluj-Napoca)

P1.11 Effects of Pollution on Radio Transmissions
Loredana M Burciu (ETTI,UPB)*; Radu P Fotescu (ETTI,UPB); Rodica Constantinescu (ETTI, UPB); Paul Svasta (UPB-CETTI

P1.12 Sniffer. Testing the radio function of water meters.
Fabian-Manuel Butean (UPT); I. I. Stînga (Politehnica Univ. Timisoara), Ioan Lie (Politehnica University Timisoara)*

Room 4

P1.13 Research on the extension of the life cycle of high power electricity storage devices
Irina B Bacis (UPB-CETTI); Lucian A Perisoara (University Politehnica of Bucharest)*; Alexandru Vasile (UPB-CETTI)

P1.14 Piezoelectric Energy Harvesting using SSHI Technique
Corina N Covaci (UPT)*; Aurel Gontean (Politehnica Univ. Timisoara)

P1.15 The influence of the SARS-CoV-2 on electricity consumption in Romania
Marius-Alexandru Dobrea (University Politehnica of Bucharest)*; Mihaela Vasluianu (UTCB); Giorgian Neculoiu (UTCB); Ana Moldoveanu (UPB)

P1.16 The Experimental Determinations at the Wind Farm Fantanele – Cogealac in Dobrogea
Joian R Radu Virgil (UTCN)*; Claudiu Lung (Technical University of Cluj Napoca); Horgos Mircea (Technical University of Cluj Napoca)

Room 5

P1.17 Improved Affine Projection Algorithm for the Identification of Multilinear Forms
Laura-Maria Dogariu (University Politehnica of Bucharest)*

P1.18 Spectrometric Milk Analyzer
Ioana-Adriana Potarniche (Technical University of Cluj-Napoca)*; Ramona Galatus (Technical University of Cluj-Napoca)

P1.19 The Impact of the Sub-circuits Parameters on the Efficiency of a Charge Pump
Ionelia-Bianca Brezeanu (On Semiconductor Romania)*; Catalin Botezatu (ON Semiconductor Romania); Alexandru Vasile (UPB-CETTI); Gheorghe Brezeanu (University POLITEHNICA of Bucharest)

P1.20 Measurement application for UV-C irradiation intensity evaluation
Nicu-Serban POP (University Politehnica Timişoara); Raul C Ionel (Univ. Politehnica Timisoara)*; Liliana Matiu-Iovan (Univ. Politehnica Timisoara); Laurentiu-Valentin Ordodi (Politehnica University Timisoara, Faculty of Industrial Chemistry and Environmental Engineering

Room 6

P1.21 An accurate prediction of PM2.5 concentration for a web application
Dumitru Iulian Nastac (POLITEHNICA University of Bucharest)*; Andrei Alexandrescu (POLITEHNICA University of Bucharest); Andrei Daniel Andronescu (POLITEHNICA University of Bucharest)

P1.22 Remote Control System Based on Power Line Communication
Daniel Visan (University of Pitesti)*; Ioan Lita (University of Pitesti)

P1.23 Multipoint Data Acquisition System for Thermal Analysis of Electronic Modules
Daniel Visan (University of Pitesti)*; Ioan Lita (University of Pitesti)

P1.24 LC Oscillator Design Used in Sensor Measurement based on Embedded Technology
Septimiu Pop (Technical University Cluj Napoca)*; Vlad Bande (Technical University Cluj Napoca)

Room 7

P1.25 Mobile Application for Control and Monitoring of Electronic System for Management of Energy Flows in Residential Premises
Iordan Stoev (University of Ruse); Snezhinka Zaharieva (University of Ruse)*; Adriana N. Borodzhieva (University of Ruse)

P1.26 Digital control of a health monitoring system
Roland Șimon (Polytechnic University of Timisoara); Adrian Popovici (Polytechnic University of Timisoara)

P1.27 Ultrasonic indoor navigation prototype for visual impaired users
Papara Radu (Technical University of Cluj-Napoca)*

P1.28 Electronic module for control of energy source
Iordan Stoev (University of Ruse); Snezhinka Zaharieva (University of Ruse)*; Adriana N. Borodzhieva (University of Ruse)

Room 8

P1.29 Analysis of Systems for Supporting Precision Agriculture with Renewable Energy
Seher Kadirova (University of Ruse "Angel Kanchev")*; Zhivko Kolev (University of Ruse)

P1.30 Proposal of energy independent greenhouse
Elisei S Ilies (Politehnica University Timișoara)*; Magdalena Marinca (Politehnica University of Timisoara); Szilárd Bulárka (UPT); Melinda Vajda (Politehnica University Timisoara); Daiana Albulescu (Politehnica University Timisoara)

P1.31 Role of 5G in Vehicular Network for Smart Vehicles in Smart Cities
George Suciu (BEIA Consult & UPB)*; Ijaz Hussain (BEIA); Ioana Esanu (BEIA & UPB); Robert I Vatasoiu (BEIA Consult International); Marius Vochin (University Politehnica of Bucharest)

Thursday, October 28

16:40 - 18:55 Plenary Oral Session 3

EEST | GMT +3h

Session Chair: Balázs ILLÉS, Budapest University of Technology and Economics, Hungary
Session Co-Chair: Ioan LIȚĂ, University of Pitești, Romania

16:40 KN3.1 - Car Environment Conditions vs. Thermal Chamber
Cristina Mihaela Drăgan, Continental Automotive Timisoara

17:20 O3.1 - Realization and Testing of Electrodes for Supercapacitors based on MOFs and Activated Carbon
Rodica C. Negroiu (UPB-CETTI); Paul Svasta (UPB-CETTI); Mihaela Ramona Buga (National Research and Development Institute for Cryogenic and Isotopic Technologies – ICSI); Adnana Spinu Zaulet (National Research and Development Institute for Cryogenic and Isotopic Technologies – ICSI); Cosmin Ungureanu (National Research and Development Institute for Cryogenic and Isotopic Technologies – ICSI)

17:45 O3.2 - About narrow band optical digital filters based on metamaterials
Daniela Ionescu (Gh. Asachi Technical University of Iasi, Romania, Department of Telecommunications and Informational Technologies); Gabriela Apreotesei (Gh. Asachi Technical University of Iasi, Department of Physics)

18:10 O3.3 - 3D Helmholtz Coil System Design for Measuring the Thermal Conductivity of Magnetic Nanofluids
Rahime ALSANGUR (The Graduate School of Natural and Applied Sciences, Dokuz Eylül University, İzmir, Turkey); Serkan Doganay (Department of Mechatronics Engineering, İzmir Kâtip Çelebi University, İzmir, Turkey); Alpaslan Turgut (Mechanical Engineering Department, Dokuz Eylul University, Izmir, Turkey); Levent Cetin (Mechatronics Engineering Department, Izmir Katip Celebi University, Izmir, Turkey

Friday, October 29

08:30 - 10:00 Poster Session 2 (Start with a pitching session*)

EEST | GMT +3h ***Each author must deliver a maximum 1 minute video presentation of her/his work. The e-Poster evaluation will take place in the assigned Room.***

Session Chair: Norocel CODREANU, University Politehnica of Bucharest, Romania
Session Co-Chair: Bálint MEDGYES, Budapest University of Technology and Economics, Hungary
Technical assistant Cristina LEPĂDATU, Association for Promoting Electronic Technology Bucharest

Room 1

P2.1 VLSI Design of a 5th-order Gm-C Low-Pass Active Filter in CMOS Technology
Radu Gabriel Bozomitu ("Gheorghe Asachi" Technical University of Iasi)*; Aurica Zara ("Gheorghe Asachi" Technical University of Iasi)

P2.2 On the use of Virtual Negative Resistance in Physical Selective Electronic Circuits
Nistor Nicusor (Dunarea de Jos University of Galati)*; Radu C. V. Belea (University of Galati); Dorel Aiordachioaie (Dunarea de Jos University of Galati)

P2.3 Cascaded Adaptive Filters in a Multilinear Approach for System Identification
Alexandru George A Rusu (University Politehnica of Bucharest)*; Silviu Ciochina (University Politehnica of Bucharest); Constantin Paleologu (University Politehnica of Bucharest)

P2.4 Effective Modelling of Interconnects with Domain Partitioning and Model Order Reduction
Gabriela Ciuprina (University Politehnica of Bucharest)*; Daniel Ioan (University Politehnica of Bucharest)

Room 2

P2.5 The Development Process of a Quick SMS Auto Responder App for Car Drivers or Busy People
Roland Szabo (Applied Electronics Department, Faculty of Electronics, Telecommunications and Information Technologies, Politehnica University Timisoara)*; Aurel Gontean (Politehnica Univ. Timisoara); Andrei Burta (Faculty of Electronics, Telecommunications and Information Technologies, Politehnica University Timisoara)

P2.6 The Development of a Head-up Display (HUD) App on the Android Mobile Operating System
Roland Szabo (Applied Electronics Department, Faculty of Electronics, Telecommunications and Information Technologies, Politehnica University Timisoara)*; Aurel Gontean (Politehnica Univ. Timisoara); Andrei Burta (Faculty of Electronics, Telecommunications and Information Technologies, Politehnica University Timisoara)

P2.7 Assisted OCT diagnosis embedded on Raspberry Pi 4
Loredana Buzura (Technical University of Cluj-Napoca)*; Ramona Galatus (Technical University of Cluj-Napoca)

P2.8 Python based portable system for fast characterisation of foods based on spectral analysis
Loredana Buzura (Technical University of Cluj-Napoca)*; Ramona Galatus (Technical University of Cluj-Napoca)

Room 3

P2.9 Automation of Information Exchange Between Neural Networks
Martin Kaloev (University of Ruse)*; Georgie Krastev (University of Ruse)

P2.10 Retrofitting Video Surveillance Systems using Deep Learning Technologies
Mihai T Andreescu (Politehnica University Timisoara)*; Radu Mirsu (Politehnica University Timisoara); Catalin Caleanu (Politehnica University Timisoara)

P2.11 Efficient Unaligned Memory Access of Tightly Packed Weights for Deep Neural Network Inference on Edge Devices
Ciprian Seiculescu (University "Politehnica" of Timisoara)*

P2.12 Deep Neural Network Hardware Survey
Rotar Danut (Continental Automotive Romania SRL)*

P2.13 Machine Learning Analysis of Time Series Data from IoT Embedded Systems
Vlad Voicu (Universitatea Tehnica din Cluj-Napoca)*

Room 4

P2.14 CBIR for urban buildings using A-KAZE features
Ciprian Orhei (Politehnica University of Timisoara)*; Lucian Radu (Politehnica University of Timisoara); Muguras Mocofan (Politehnica University of Timisoara); Silviu Vert (Politehnica University of Timisoara); Radu Vasiu (Universitatea Politehnica Timisoara)

P2.15 Protocol over UART for Real-Time Applications
Mihai Daraban (Technical University of Cluj-Napoca)*; Cosmina Corches (Technical University of Cluj-Napoca); Adrian Taut (Technical University of Cluj-Napoca); Gabriel Chindris (UT Cluj-Napoca)

P2.16 Real-time Spatialized Sound Generator on Embedded Wearable Platform
Mihai Daraban*; Cornel Amariei; Agota Faluvegi; Karoly Lengyel

P2.17 Adaptive data predictions for the energy sector at national level
Dumitru Iulian Nastac (POLITEHNICA University of Bucharest)*; Paul-Vasile Vezeteu (POLITEHNICA University of Bucharest); Andrei-Raoul Morariu (POLITEHNICA University of Bucharest)

Room 5

P2.18 Robotic Arm for Biological Probe Tubes Handling
Lorant A Szolga (UTCN)*

P2.19 Low-Cost Peristaltic Pump for Laboratory Applications
Lorant A Szolga (UTCN)*

P2.20 New FPGA design solution using quantum computation concepts
Laurenţiu Ionescu (University of Piteşti)*

P2.21 On Flight Real Time Image Processing by Drone Equipped with Raspberry Pi4
Lorant A Szolga (UTCN)*

Room 6

P2.22 Ultrasound liver steatosis diagnosis using deep convolutional neural networks
Georgiana Simion (UPT)*

P2.23 Computer Tomography Blurred Images Recovery
Teodora Petrova (Trakia University)*; Zhivo B Petrov (Aviation Faculty, AirForce Academy, Dolna Mitropolia)

P2.24 Study on Counter-flow Air to Air Heat Exchange for Air Handling Unit of Smart Buildings
Viorel Nicolau ("Dunarea de Jos" University of Galati)*; Mihaela Andrei ("Dunarea de Jos" University of Galati); George Petrea ("Dunarea de Jos" University of Galati)

Room 7

P2.25 Calibration of Time-of-Flight Ultrasonic Flow Meters
Fabian-Manuel Butean (UPT); Septimiu Lica (Politehnica University Timisoara); Ioan Lie (Politehnica University Timisoara)*

P2.26 EMC Simulation of a Power Filter in the Automotive Area
Andrei Marius Silaghi (Politehnica University Timisoara)*; Ciprian Bleoju (Continental Automotive Timisoara); Aldo De Sabata ("Politehnica" University Timisoara)

P2.27 Solving Automotive Signal Integrity Issues by means of EMC Simulation
Andrei Marius Silaghi (Politehnica University Timisoara)*; Catalin Pescari (University Politehnica Timisoara); Ciprian Bleoju (Continental Automotive Timisoara); Aldo De Sabata ("Politehnica" University Timisoara)

P2.28 Real-time line matching based speed bump detection algorithm
Sirbu Laura Cristina (Continental Automotive Romania)*; Cristian Tomoiu (Continental Automotive Romania); Szilvia Boldizsar (Continental Automotive Timisoara); Orhei Ciprian (Continental-Corporation.com)

Room 8

P2.29 Software Tool for Parameter Estimation and Control of High Speed PMSM Motors
Marius-Alexandru Taut (Technical University of Cluj-Napoca)*

Friday, October 29

10:10 - 10:50 Industrial Session 2
EEST | GMT +3h

Session Chair: Rajmond JANO, Technical University of Cluj-Napoca, Romania
Session Co-Chair: Radu BOZOMITU, Gh. Asachi Technical University of Iaşi, Romania

Alfa Test **Robert Bosch SRL** **Net Digital Service SRL**

Friday, October 29

10:50 - 12.20 Plenary Oral Session 4
EEST | GMT +3h

Session Chair: Ciprian IONESCU, University Politehnica of Bucharest, Romania
Session Co-Chair: Boris I EVSTATIEV, University of Ruse Angel Kanchev, Bulgary

10:50 KN4.1 – About technology trends and automotive electronics
Pekka Sipilä, Continental Automotive GmbH

11:30 O4.1 Education 4.0 Lab for Digital Innovation Units – Collaborative Learning in Time of COVID-19 Pandemic
Monica Ionita Ciolacu (Deggendorf Institute of Technology & UPB-CETTI); Paul Svasta (UPB-CETTI); Alina-Elena E Marcu (University Politehnica of Bucharest); Marian Vladescu (University Politehnica of Bucharest); Dan Alexandru Stoichescu (ETTI - UPB)

11:55 O4.2 Sensor based IoT monitoring of Electronics Manufacturing in University Lab Environment
Attila Géczy (BME-ETT); Lajos Kuglics (BME-ETT); István Megyeri (BME-ETT); Róbert Gelbmann (BME-ETT); Gábor Harsányi (BME-ETT, Budapest, Hungary)

Friday, October 29

12:20 - 13:00 Industrial Workshop
EEST | GMT +3h

Session Chair: Ionuț MUNTEAN, Robert Bosch SRL, Romania

12:20 Flying Probe component programming by Flash Runner NXG integration

Raul IONEL, Associate Professor Measurements and Optical Electronics Dept., University Politehnica Timișoara, Romania
Caius TĂNASIE, Technical Manager of Test Dept. Alfa Test S.R.L.Timișoara, Romania

Friday, October 29

14:00 - 14:30 Special Oral Session
EEST | GMT +3h

Session Chair: Monica CIOLACU, University of Passau, Germany

14:00 Counterproductive behaviours at work and how to avoid them
Psih.dr. Daniel Ciucur, Trainer Process Communication Model®, CIUCUR & CIUCUR SCPP, Timisoara, Romania

14:30 Q&A

Friday, October 29

14:40 - 16:10 Poster Session 3 (Start with a pitching session*)
EEST | GMT +3h ****Each author must deliver a maximum 1 minute video presentation of her/his work. The e-Poster evaluation will take place in the assigned Room.***

Session Chair: Detlef BONFERT, Fraunhofer EMFT, Munich Germany
Session Co-Chair: Liviu VIMAN, Technical University of Cluj-Napoca, Romania
Technical assistant Cristina LEPĂDATU, Association for Promoting Electronic Technology Bucharest

Room 1

P3. 1 Flying Probe component programming by Flash Runner NXG integration
Raul C Ionel (Univ. Politehnica Timisoara)*; Caius Tanasie (Alfa Test SRL)

P3.2 Investigation on Meandered Split Ring Resonator for Metamaterial Microwave Absorber Design
Iulia Mocanu (UPB)*

P3.3 Vibration Testing of a Solderless Electronic Module Manufactured by Additive Technique
Gaudentiu Varzaru (Syswin Solutions)*; Razvan Ungurelu (SYSWIN Solutions); Mihai Branzei (University POLITEHNICA of Bucharest); Bogdan Mihailescu (UPB-CETTI); Ciprian Ionescu (UPB-CETTI); Paul Svasta (UPB-CETTI)

P3.4 Digital Solutions for Smart Food Supply Chain
George Suciu (BEIA Consult & UPB)*; Iulia Pop (BEIA); Robert I Vatasoiu (BEIA Consult International); Serban Calescu (BEIA); Adrian Pasat (BEIA Consult)

Room 2

P3.5 Rechargeable portable battery differentiation based on electrical characterization
Albert Fazakas (Technical University of Cluj-Napoca)*; Marius Purcar (Technical University of Cluj-Napoca)

P3.6 Advantages of Using Battery Cell Balancing Technology in Energy Storage Media at Electric Vehicles
Radu P Fotescu (ETTI,UPB)*; Loredana M Burciu (ETTI,UPB); Rodica Constantinescu (ETTI, UPB); Paul Svasta (UPB-CETTI)

P3.7 Experimental Estimation of the State of Health of Lithium-ion Batteries under Different Conditions
Adelina Ilies (Technical University of Cluj-Napoca)*

P3.8 4-Cell Passive Battery Management System for Automotive Applications
Ionut Guran (University Politehnica of Bucharest)*; Lucian Perișoară (University Politehnica of Bucharest); Adriana Florescu (University Politehnica of Bucharest); Dragos Ioan Sacaleanu (University Politehnica of Bucharest)

Room 3

P3.9 A custom Software for the Evaluation of Single-Cell Force-Spectroscopy Data Acquired by FluidFM BOT
Agoston G Nagy (Budapest University of Technology and Economics)*

P3.10 The investigation by numerical simulation of thermal induced deformation in a double soldered chip structure
Adrian Bojita (Technical University of Cluj-Napoca)*; Luiza Dobre (UTCN); Marius Purcar (Technical University of Cluj-Napoca); Albert Fazakas (Technical University of Cluj-Napoca)

P3.11 A simple High Voltage MOSFET simulation behavioural model for SABER Simulator
Octavian Luca (Vitesco Technologies)*;

P3.12 Increasing Thermal Simulation Efficiency with 6SigmaET
Alexandra Fodor (Technical University of Cluj-Napoca)*; Adrian Taut (Technical University of Cluj-Napoca); Gabriel Chindris (UT Cluj-Napoca)

Room 4

P3.13 Two New Boost Converters Exhibiting Zero-Ripple Input Current Both in CCM and DCM Operation
Cristian Ionici (Politehnica Univ. Timisoara); Dan Lascu (Politehnica University Timisoara)

P3.14 POL DC-DC Converter Output Capacitor Bank's Reliability Comparison using Prediction Standard MIL-HDBK-217F and SN 29500
Dan Butnicu (Technical University of Iasi)*

P3.15 ANALYSIS OF THE INPUT FILTER PARAMETERS FOR A POWER MATRIX CONVERTER
Adrian Popovici (Polytechnic University of Timisoara)*

P3.16 A Review of Failure Rate Calculation's Differences Due to Package for IEC-TR-62380 vs. other Prediction Standards
Dan Butnicu (Technical University of Iasi)*

Room 5

P3.17 In-circuit ESR Measurement Method for Electrolytic Capacitors
Magdalena Marinca (Politehnica University of Timisoara)*; Elisei S Ilies (Politehnica University Timișoara)

P3.18 Electrical Parameters Prediction for Fab-to-Fab IC Product Migration
Alecsandra V Rusu(Buta) (Universitatea Tehnica Cluj-Napoca)*; Ingrid Kovacs (Technical University of Cluj-Napoca); Bianca Cărbunescu (Technical University of Cluj-Napoca); Topa Marina (Technical University of Cluj Napoca); Andi Buzo (Infineon Technologies AG Neubiberg); Georg Pelz (Infineon Technologies AG Neubiberg)

P3.19 Extending Insight About Solder Beading Effect Under Surface-mounted Electrolytic Capacitors
Daniel Straubinger (BME-ETT)*; Attila Tóth (Robert Bosch GmbH)

Room 6

P3.20 Climatic aging of conductive adhesive joints on pads with different surface finishes
Pavel Mach (Czech Technical University in Prague)*; R Lacina (Czech Technical University in Prague)

P3.21 Mathematical Modeling of Resistance of Conductive Adhesive Joints in Climatic Aging
Pavel Mach (Czech Technical University in Prague)*; R Lacina (Czech Technical University in Prague)

P3.22 In-circuit Signal Measurement Method for Interleave Uniformly Spaced Sampling
Corneliu Barbulescu (Universitatea Politehnica Timisoara)*

P3.23 Study on Techniques for the Increase of the Current Carrying Capability of the PCB Tracks
Andrei DRUMEA (Politehnica University Bucharest)*; Cristina Marghescu (UPB-CETTI)

Room 7

P3.24 Education 4.0: Innovation Learning Lab for AI - Analysis and Concept Proposal
Monica Ionita Ciolacu (Deggendorf Institute of Technology & UPB-CETTI)*; Bernhard Haderer (Technische Hochschule Deggendorf); Andreas Berl (Deggendorf Institute of Technology); Paul Svasta (UPB-CETTI)

P3.25 Student-centred Learning Environments in the Discipline "Radio Communication Technologies"
Ivanka Tsvetkova (University of Ruse)*; Adriana N. Borodzhieva (University of Ruse)

P3.26 Application of Software for the Purpose of Enhancing Online Education
Ivanka Tsvetkova (University of Ruse)*; Adriana N. Borodzhieva (University of Ruse)

Room 8

P3.27 Active and Interactive Methods Used in Teaching and Learning the Topic "Cryptosystems Based on Nonlinear Feedback Shift Registers"

Adriana N. Borodzhieva (University of Ruse)*; Ivanka Tsvetkova (University of Ruse); Snezhinka Zaharieva (University of Ruse); Dimitar Dimitrov (Bulgarian Air Force Academy, Dolna Mitropolia); Valentin Mutkov (University of Ruse)

P3.28 Inquiry-Based Learning Used for Implementation of BCD Adders in the Course "Digital Electronics"
Adriana N. Borodzhieva (University of Ruse)*; Ivanka Tsvetkova (University of Ruse); Snezhinka Zaharieva (University of Ruse); Dimitar Dimitrov (Bulgarian Air Force Academy, Dolna Mitropolia); Valentin Mutkov (University of Ruse)

P3.29 Curriculum and Training Development in the METIS project
Bálint Medgyes (BME-ETT)*; Balázs Illés (BME-ETT); Oliver Krammer (BME-ETT); Slavka Tzanova (Technical University of Sofia, Department of Microelectronics); Stefania Gavra (SEMI Europe, Brussels Office)

P3.30 The Impact of COVID-19 on Higher Education: the Shift to E-learning - Student's Perception and Outlooks
Cristina Marghescu (UPB-CETTI)*; Andrei DRUMEA (Politehnica University Bucharest); Mihaela Pantazica (UPB-CETTI)

Friday, October 29

16:20 - 17:50 Plenary Oral Session 5

EEST | GMT +3h

Session Chair: Detlef BONFERT, Fraunhofer EMFT, Munich Germany
Session Co-Chair: Cosmin MOISĂ, Continental Automotive, Timişoara, Romania

16:20 KN5.1 Thin film transistors, sensors and applications to human-computer interfaces

Radu Sporea, Advanced Technology Institute, Department of Electrical and Electronic Engineering, University of Surrey

17:00 O5.1 Evaluation of Finite Element Modelling Techniques of Printed Circuit Boards under Dynamic and Static Loading and Validation with Experimental Data
Eliza Tinca (Politehnica Timisoara); Iulian I. Ailinei (Politehnica University); Andrei Marius Silaghi (Politehnica University Timisoara); Ciprian Bleoju (Politehnica University Timisoara); Arjana Davidescu (Politehnica University Timisoara); Liviu Marsavina (Politehnica University Timisoara)

17:25 O5.2 Thermal Model of a Submersible Water Pump
Boris I. Evstatiev (University of Ruse Angel Kanchev); Nadezhda Evstatieva (University of Ruse Angel Kanchev)

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Phoenix microme|x neo and **nanome|x neo** series combines high-resolution 2D X-ray technology and 3D CT in one system. Innovative and unique features and an extreme high positioning accuracy make both systems the effective and reliable solution for a wide spectrum of 2D and 3D offline inspection tasks: R&D,
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Teradyne's new TestStation systems feature a Multi-Site test architecture for true parallel or asynchronous production test of panelized boards and multiple assemblies. The system's ability to test multiple boards concurrently ensures that circuit board test is never a production bottleneck

The **APT-1400F/1600FD** series are next-generation flying probe test systems which have unprecedented performance in terms of test speed, positioning accuracy and test coverage. Owing to major improvement in test speed and positioning accuracy, the new APT is capable of having the probes contact extremely small test pads deployed on the latest SMT boards with a high degree of accuracy to test.

XJLink2 is a small, portable, USB hardware device that provide a high speed interface to the JTAG chain on a circuit board. The small, lightweight design means the XJLinks can easily be moved to the Unit Under Test
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› **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.

ELECTRO OPTIC COMPONENTS

is specialized in the development and manufacture of optoelectronic systems for various applications. Some of the company achievements are:

- laser and radar warning systems for military vehicles;
- thermal cameras, optoelectronic sensors and interfaces for their integration into complex systems;
- mobile and fixed border surveillance systems;
- laser rangefinders for integration in other optical systems (binoculars, optical aiming devices);
- high power generators for emergency situations;
- ruggedized PC computers with framegrabbers for image processing of different video sources such as day and night vision cameras, which can be integrated in complex surveillance systems;
- DC/DC and AC/DC converters;
- various types of microcontroller boards for automation;
- PC and microcontroller software development.

ELECTRO OPTIC COMPONENTS is ISO 9001:2008 certified and has the technical ability to develop complex electronic and optoelectronic systems for different applications.

Str. Atomistilor nr. 171A
Magurele – ILFOV
Postal code 077125
ROMANIA
Tel/Fax: 0214574592
www.electro-optic.ro

Microchip Technology Inc.

is a leading Total System Solution Provider for High-performance standard and specialized Microcontrollers, Digital Signal Controllers and Microprocessors, Mixed-Signal, Analog, Interface and Security solutions, FPGA, connectivity, memories and power management semiconductors.

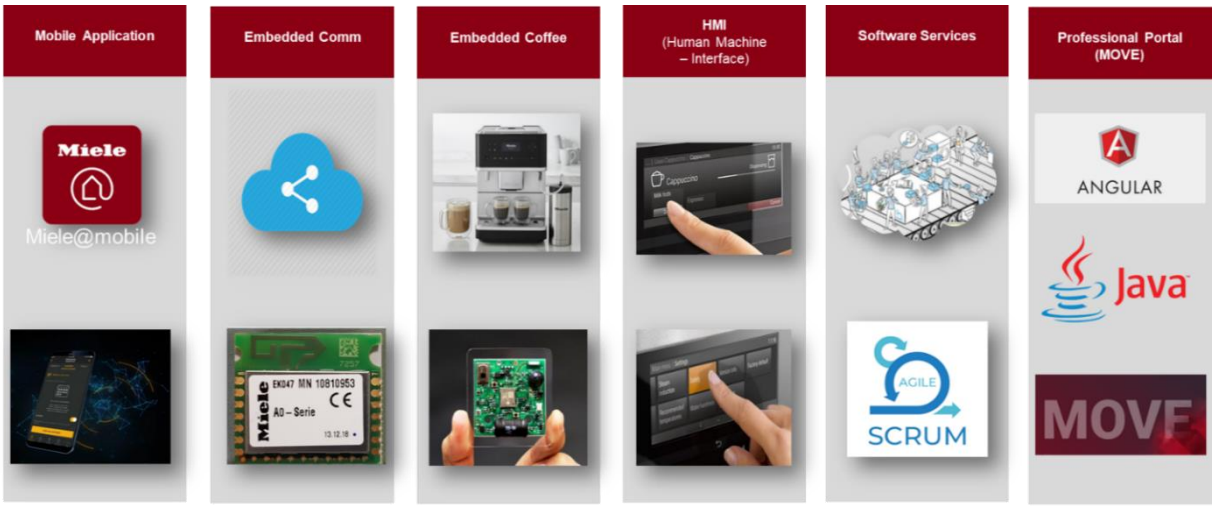
The company's solutions serve more than 130,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets.

Headquartered in Chandler, Arizona, Microchip has 75 offices worldwide and 19,000 employees and has had 123 consecutive quarters of profitability and a Revenue of over $5.4 billion.

Microchip's Romania Design Center (RDC) is home to more than 10 different Business Units handling analog, digital and mixed signal product development (design, verification, validation), software development, field technical customer support, 8, 16 and 32 bits microcontrollers and microprocessors design and applications development.

With around 300 employees in our AFI Business Park Office (next to Bucharest Polytechnics University), RDC has a very well-developed internship program with more than 30 openings/ year. Many of our engineers have started thru an internship and remained full-time employees over the years. We encourage long term professional development and provide mentorship and guidance to our students.

Premium brand for more than 120 years



Miele is present in Brasov since 2009 with a **production plant** that provides the group with the necessary electronic components and subassemblies for the control units of the smart home appliances. Since 2015 in the **Software & Hardware Development** department innovative **projects and programs** are developed for a variety of Miele home appliances and professional products.

Applying Agile methodology in SWD we transform the product vision into real products, creating top-of-the-range next generation products with flexible designs.

The facility in Brașov is equipped with state-of-the-art technology and all quality requirements are respected according to the Miele Group's standards.

The Miele products set the standards for durability, performance, ease of use, energy efficiency, design and service products.

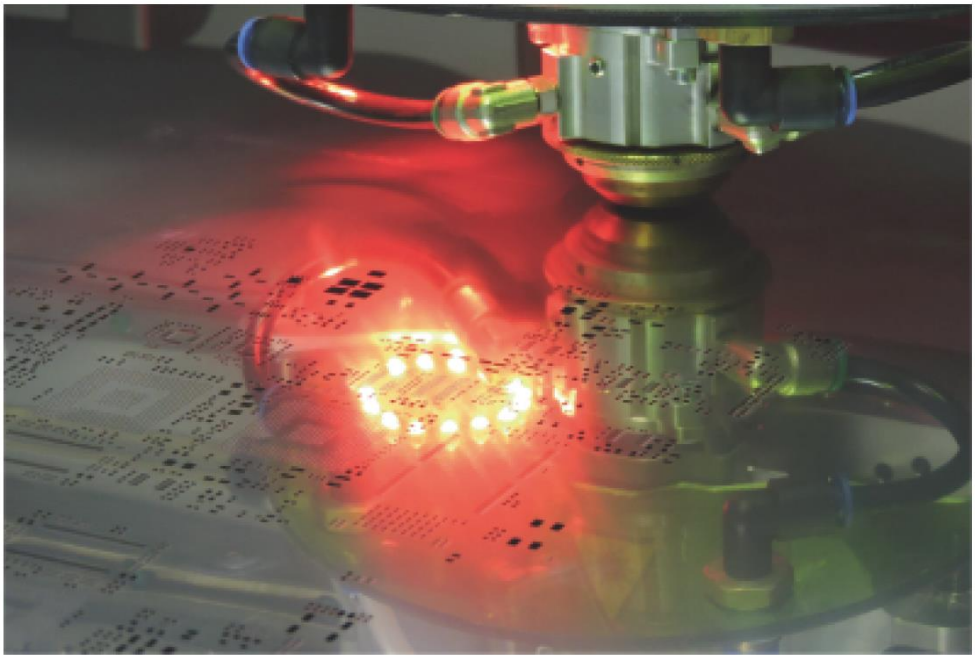
Our philosophy "Immer besser - Always better", determines us to continue to develop and make high quality products. "We at Miele develop ourselves to have a premium experience" - this is our vision in Brasov, a vision that guides us in our daily activity.

Miele premium brand has been built on trust and respect, values that recommend us as a desired employer in Romania.

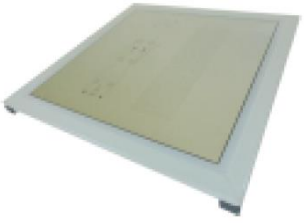
Miele Tehnica SRL
Str. Carl Miele 1, 507065
Feldioara, Brașov, Romania
+40 372 217 800 |+40 738 299 953
Fax: +40 372 217 810
recrutare@miele.ro
www.miele.ro

NET DIGITAL SERVICE

NDS
LASER STENCIL TECHNOLOGY



Net Digital Service produce o mare varietate de stenciluri SMT pentru sisteme de rame autotensionante, stenciluri lipite (mesh glued), Step-Stenciluri, tratamente NanoCoating, ministenciluri etc.



ScanSTENCIL este o staţie de lucru independentă, complet integrată, pentru măsurarea și inspectarea PCB-urilor şi şabloanelor SMT înainte de producţie.

Competenţele noastre cu privire la prelucrarea CAD a fişierelor primite de la client, precum şi calitatea echipamentelor laser LPKF folosite, permit oferirea de produse de înaltă calitate la preţuri competitive.

Net Digital Service este distribuitor autorizat pe România a produselor ScanCad Internaţional.

CONTACT

www.nds-service.com
office@nds-service.com
stencil@stv-group.com

Parc Industrial Borş 2/D
Borş 417075, jud. Bihor
tel. 0359192819

ELINCLUS ELectronic INnovation CLUSter

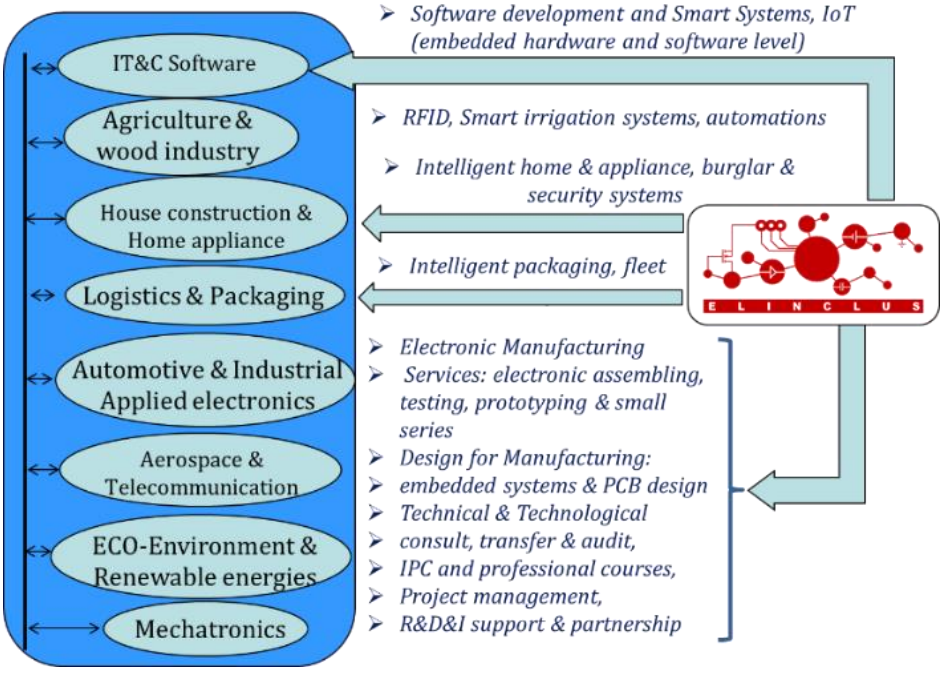
EMC: Association for Promoting Electronics Technology – APTE (www.apte.org.ro)

Founded 2011; 94 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
- Founding member of the IT Cluster Network from Romania comprised of 9 members 9: Transilvania IT Cluster, ALT – Brașov, Banat Software, Innovative Clsuter Open Hub, INOMAR, **ELINCLUS**, ICT Oltenia, ICT Cluster Lower Danube și Smart Alliance Cluster.
- Founding member of the regional Digital Innovation Hub – Smart e-Hub https://smartehub.eu/



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

ASSOCIATION FOR PROMOTING ELECTRONICS TECHNOLOGY (ASOCIAŢIA PENTRU PROMOVAREA TEHNOLOGIEI ELECTRONICE)

IMAPS ROMANIA

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 94 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:

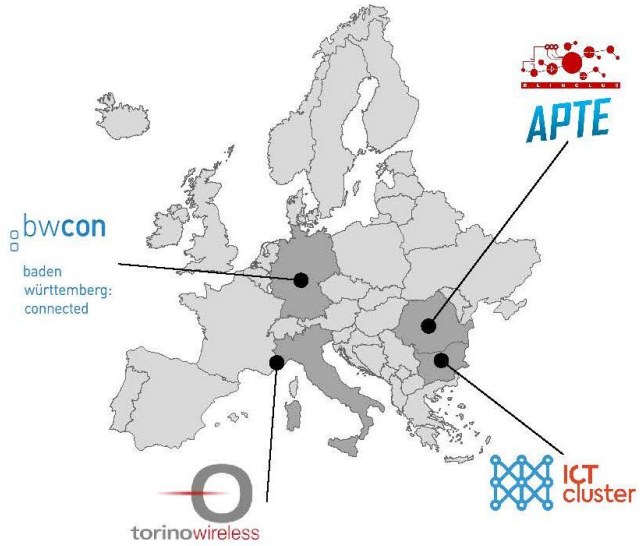
27-29 Callimachi Street
023496 - Bucharest, Romania

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

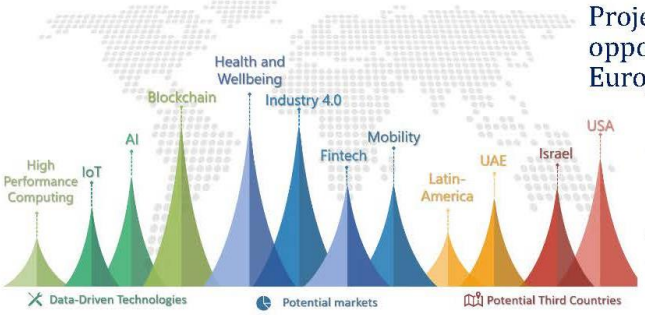
This project is co-funded by the COSME Programme of the European Union

BRIDGE PROJECT

Building Relations to go International for Data-Driven Growing Enterprises (start-ups and SMEs)



- ✓ **20 months:** ***Sept. 2020 – April 2022***
- ✓ **4 European clusters:** ***Italy*** ***Germany*** ***Romania*** ***Bulgaria***
- ✓ ***Target:*** ***AI & Blockchain SMEs and start-ups internationalisation***



Project offers internationalisation opportunities for AI and Blockchain European SMEs and start-ups

- Matchmaking with companies from Europe and Third Countries
- B2B and C2C meeting
- Support services to succeed abroad

Contact details:

Bogdan MIHĂILESCU – bogdan.mihailescu@apte.org.ro

BRIDGE's profile - https://www.clustercollaboration.eu/escp-profiles/bridge

COMPACT PROJECT

Components' assembly and interconnection through combined solderless technologies

About COMPACT

COMPACT project aims to develop a new manufacturing technology method to build electronic modules without the use of soldering, but through an additive technique using materials such as conductive paste or ink, resin, electroless copper. The proposed technology might allow to manufacture cheaper and more reliable electronic modules since all the problems caused by the solder joints (defects like cracking, tin whiskers, tombstoning, voiding, a.s.o.), and by the soldering process (delamination, higher thermal stress of the components), will no longer exist.

Objectives

The main objective

● The implementation of an innovative technological method for the manufacturing of electronic modules without using solder alloy.

The specific objectives

● To establish the materials requirements and the specifications necessary for the applying the innovative procedure.

● To establish an initial procedure of the innovative technological method of manufacturing.

● To test application methods under laboratory conditions; design of the test vehicles; solderless bonding functional tests: mechanical, thermal and electrical.

● Validation of the technological method applied in laboratory conditions. Assessment of the limitations of the technological method.

● To design and manufacture an electronic module using the new technological method and to test it in conditions similar to the real ones.

Partnership

Coordinator | Partner 1 | Partner 2(Spain)

Project Code: ERANET-MANUNET-III-COMPACT

Website: https://www.syswinsolutions.com/news/research/projects/compact-project/

INVITATION TO SIITME 2022, IN THE FRAME OF THE ELECTRONIC WEEK 2022

(24TH – 29TH OF OCTOBER 2022)

It is our great pleasure and honour to invite you to **2022 IEEE 28th International Symposium for Design and Technology in Electronics Packaging (SIITME)**, a solid scientific event in Central and Eastern Europe in the last almost three decades.

We are privileged to hold **SIITME 2022** in Bucharest, the same location where the first **SIITME**, in 1995, took place. It will be not only our honour, but also our happiness to welcome many leading experts from Romania, Europe and United States, and to see them together in Bucharest. We will have, as participants, prestigious professors coming from universities, their Ph. D. students, researchers and specialists from important companies, including IEEE members and distinguished lecturers, as keynote speakers. In the frame of **SIITME 2022**, we will also organize an industrial exhibition, where companies involved in electronics packaging and electronics industry will show their recent results and products.

SIITME 2022, as a premier conference on almost all aspects of electronics packaging in our region, will provide a range of oral and poster presentations, keynote speeches, industrial session & exhibition, and will let the attendees exchange ideas of the latest developments in electronics packaging and emerging applications of them.

Despite the pandemic, our dreams and our professional activity must continue! For this reason, on behalf of the Organizing Committee of **SIITME 2022**, as chairmen of this event, we have a hope in our souls and we look forward to seeing you next year in Bucharest for an exciting and enjoyable conference.

Prof. Norocel CODREANU, Ph. D.
Conference Chair

Prof. Ciprian IONESCU, Ph. D.
Conference Co-Chair

Continental
The Future in Motion

Miele

BOSCH
Tehnică pentru o viață

Universitatea Politehnica Timișoara

AlfaTest
Trusted partner for Automation & Test

APTE

iMAPS ROMANIA

POLITEHNICA UNIVERSITATEA DIN BUCUREȘTI
200 ani aniversare
1818

MICROCHIP

CETTI

ETTI

NDS
LASER STENCIL TECHNOLOGY

Fraunhofer EMFT

EOC
ELECTRO OPTIC COMPONENTS

Sponsori Tehnici:

Continental Automotive, Timişoara
Continental Automotive Systems, Sibiu
Continental Automotive, Iaşi
OSRAM – AMS, Iaşi
Robert Bosch

IEEE Romania Section

IEEE ELECTRONICS PACKAGING SOCIETY

IEEE HU&RO EPS&NTC JOINT CHAPTER

IEEE NANO

IEEE Nanotechnology Council
Advancing Nanotech for Humanity

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