

# A premiere in Eastern Europe: Bucharest organized the International Conference in nanoelectronics ESSDERC/ESSCIRC

On the initiative and with the financial support of Infineon Technologies Romania and the Ministry of National Education and other sponsors, Bucharest hosted as a premiere for Eastern Europe, an international conference with a long tradition. The conference is formed by a pair of scientific events, devoted to electronic semiconductor devices (43rd edition of ESSDERC) and electronic circuits (39th edition of ESSCIRC). The original names are European Solid-State Devices Research Conference (ESSDERC) and respectively European Solid-State Circuits Conference (ESSCIRC). Devices and electronic circuits are the two “traditional” facets of the domain called at present “nanoelectronics”. The double event fully illustrates the synergy between the two subdomains and demonstrates the scientific potential of Europe, eager to keep its position in the global competition that takes place in nanoelectronics.

- Prof. Dan Dascălu (dan.dascalu@imt.ro)

**The conference**, organized under the auspices of the IEEE (the world’s largest organization of engineers) had a significant participation, with accepted papers from other continents (11% from North America and 16% from Asia). On the other hand, this conference, characterized by a severe selection of the submitted papers, remains - considering the origin of the first author - an event mostly “academic” (68% of papers), the remaining papers coming from research centres and industrial companies, in equal percentage. But this is just a “statistics”; in reality, the majority of papers were written in collaboration (a random example: a paper with authors from University of Bologna, Italy and the company Texas Instruments, USA). The conference itself took place on three consecutive days (17-19 September 2013) and was very concentrated, containing 171 regular papers (all with oral presentations), 12 papers presented in plenary sessions and other 10 invited papers. The Programme Committees recommended and selected a large number of international distinguished invited speakers, most of the plenary talks being

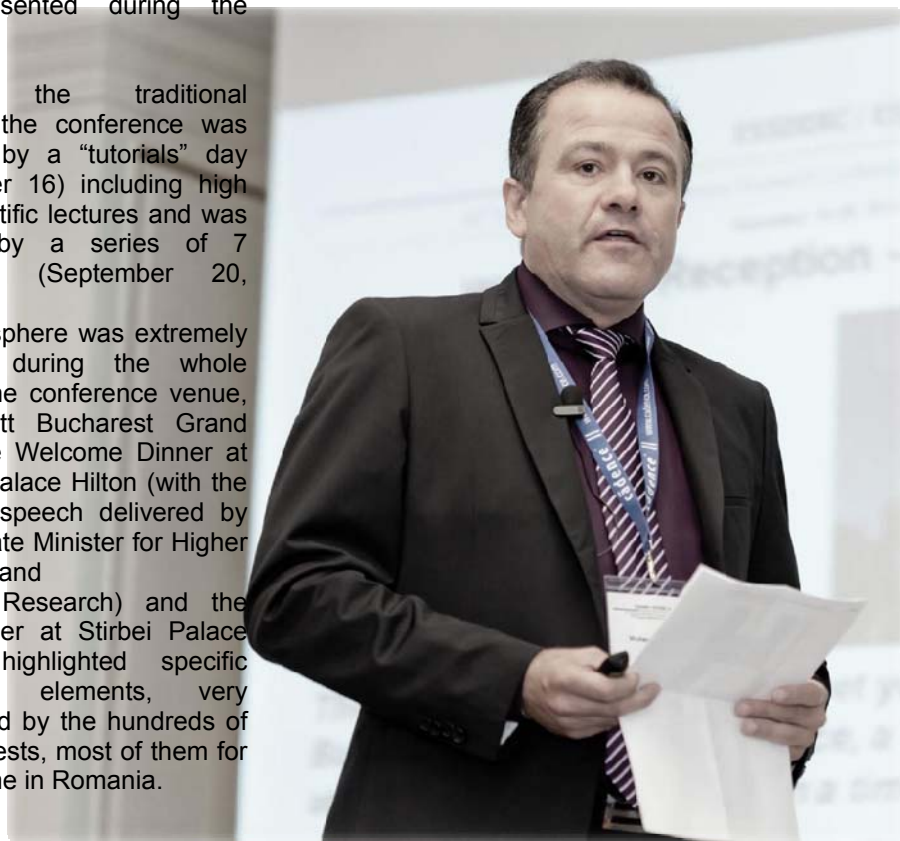
delivered by specialists from the most prestigious universities and research centres in the USA. Large syntheses about the development of this domain or cutting-edge research topics were presented during the event.

Keeping the traditional structure, the conference was preceded by a “tutorials” day (September 16) including high level scientific lectures and was followed by a series of 7 workshops (September 20, 2013).

The atmosphere was extremely animated during the whole week at the conference venue, JW Marriott Bucharest Grand Hotel. The Welcome Dinner at Athenee Palace Hilton (with the Welcome speech delivered by the Delegate Minister for Higher Education and Scientific Research) and the Gala Dinner at Stirbei Palace (Buftea) highlighted specific Romanian elements, very appreciated by the hundreds of foreign guests, most of them for the first time in Romania.

## Unique elements of 2013 edition

At ESSDERC/ESSCIRC 2013 President’s initiative, Dr. Michael Neuhaeuser (Vice-president, Infineon Technologies AG), the conference had some distinct features. The first one was a round table devoted to “European innovation in the semiconductor industry”, a debate with contributions from “executives” of the most important semiconductor companies in Europe (ST Microelectronics, NXP, Philips, Infineon Technologies AG) and research centres in the domain: IMEC, Leuven (Belgium), LETI, Grenoble (France), Fraunhofer IISB, Erlangen (Germany). Infineon Technologies AG was represented at the highest level, by Dr. Reinhard Ploss (CEO).



A remarkable participation was the one of Dr. Andreas Wild, Executive Director of ENIAC, public-private partnership in „nanoelectronics“. Unfortunately, too little time was left to answer questions from the large and competent audience, who wanted to find out how Europe will recover the increasing gap compared to North America and Asia.



Fig. 2 Photo from a plenary talk. Small photo (right): The Minister for Higher Education and Scientific Research, Mihnea Costoiu, delivering a speech at the Welcome dinner offered to the conference participants, Hotel Athenee Palace Hilton

Another feature was the attention given to automotive electronics (reflected also by the presence at the exhibition of powerful companies in Romania: Renault and Continental, together with Infineon - a world leader in automotive electronics). Finally, the workshop devoted to Eastern Europe was a real success (it took place in parallel with other 6 workshops focused on particular research topics). At the opening session of this workshop, Dr. Andreas Wild (Fig. 3) presented the perspectives of Eastern Europe countries to be financed in the context of Key Enabling Technologies (KET), an essential objective of the future European programme “Horizon 2020”. With the subtitle “Everything is possible”, the author gave the example of a country (Taiwan) which has progressed rapidly in nanoelectronics, reaching a place among the most important countries in the domain, as a result of national strategic focus. Other talks at this event were delivered by representatives from: Armenia, Bulgaria, Estonia, Hungary, (Republic of) Moldova, Poland, Romania, Russia, Turkey (alphabetical order). The presentations were dedicated to micro-nanotechnologies, a wider area than nanoelectronics. In fact, except for some papers from Romania, the

Eastern Europe hasn't succeeded to be represented in the conference programme. An advantage for the Eastern Europe was the recruiting of specialists from Poland, Romania and Moldova in the Technical Committee and the perspective that they will still remain in this committee in the coming years. This new workshop, professionally organized by prof. Ion Bogdan from the Technical University "Gh. Asachi" Iasi, was considered a success, the delegates of participating countries showing interest in maintaining contact between them and consider possibilities for common activities in the future.

### Positive assessment

The author of this article, the ESSDERC Technical Committee Chair, expresses his satisfaction for the contribution brought by Electronic Devices “team” to the success of ESSDERC/ESSCIRC 2013. The number of papers received at ESSDERC and their weight in the entire double conference were both higher compared to the 2012 edition. The most attractive points of ESSDERC consist of: a) Papers presented at the plenary sessions ([http://essderc2013.imt.ro/plenary\\_talk\\_s.shtml](http://essderc2013.imt.ro/plenary_talk_s.shtml)); (b) Tutorials on actual research topics (<http://essderc2013.imt.ro/tutorials.shtml>). Former graduates from the Faculty of Electronics, University “Politehnica” of Bucharest, had a special contribution: Adrian Ionescu, currently professor at EPFL, Laussane (Switzerland), co-chair of ESSDERC Committee and Florin Udrea, now professor at Cambridge University (UK), Tutorials chair.

### Conference assessment?

In a message addressed to the Organizing Committee of 2013 edition, Ralf Brederlow, the Steering Committee Chair of

ESSDERC/ESSCIRC conferences, expressed “the highest appreciation” for the manner the event in Bucharest was designed and coordinated. He valued the experts’ attendance, the presentations’ quality and also the way Bucharest and Romania were presented. R. Brederlow expressed his belief that the conference participants benefited not only from new scientific information, but also from “human and intercultural contacts”. The edition in Bucharest (Eastern premiere) managed to have an important participation, comparable to the previous editions, and made a very good impression on the participants. Benefits at national level? Several dozens of participants from Romania were attracted (especially at the tutorials). Unfortunately, the event was not sufficiently advertised at local level and the IEEE support missed. The credit for the excellent impression should be shared between Infineon Technologies (Vice-president Infineon Technologies AG, Dr. Michael Neuhaeuser and Managing Director of Infineon Technologies Romania, Dr. Jihad Haidar and his team) and the Romanian members of the Programme Committee, from Romania and Diaspora. The Organizing Committee was formed (apart from Infineon Technologies – main sponsor) by University “Politehnica” of Bucharest, Technical University „Ghe. Asachi” Iasi and National Institute for R&D in Microtechnologies (IMT Bucharest). IMT provided the conference web pages (at the addresses <http://essderc2013.imt.ro/> and respectively <http://esscirc2013.imt.ro/>), as well as the distribution of an electronic newsletter to thousands of specialists from all over the world. For an undetermined period of time, IMT will promote the most important moments and information related to this conference.



Fig. 3 “Executives” panel in nanoelectronics (September 17, 2013). Small photos: Dr. Reinhard Ploss (left) and Dr. Andreas Wild (right)