

## **First virtual edition of the Smart Systems Integration Conference**

The 1st completely virtual edition of the Smart Systems Integration Conference & Exhibition, short SSI, took place from April 27 to 29, 2021. More than 120 participants from all over Germany, Europe and the world took part in the online event. Originally it was planned to hold the conference in Grenoble/France. Now the event took place on an individually provided online platform due to present circumstances. Highly interesting keynotes, a total of 53 speakers spread over five tracks and nine sessions as well as a poster session with a total of ten contributions and organized topic tables for discussions were among the highlights of the three-day event. In addition, the Thomas Gessner Award was presented for the second time during the event.

With a new technical organizer, Silicon Saxony, the 14th Smart Systems Integration Conference 2021 started for the first time as an online event. Even before the start of the SSI, the participants received a small Saxon welcome. Sponsored by the Saxony Economic Development Corporation, small care packages with snacks and information materials were sent out to bring a smile to the faces of all participants during these times of limited contact. Accordingly, the participants of the SSI started their first day of the event on April 27 in a good mood and well strengthened. The Conference Chairs Prof. Thomas Otto (Fraunhofer ENAS), Dr. Stefan Finkbeiner (Bosch Sensortec and EPoSS) and Emmanuel Sabonnadiere (CEA-Leti) opened the conference.

Already the four keynotes by Lucilla Sioli, Director for Artificial Intelligence and Digital Industry, European Commission (Electronic and Photonic Smart Systems: Contributing to a European green, digital and sovereign future), Jean-François Delepau, CEO Lynred (LYNRED's leadership at the dawn of infrared imaging applications), Remi Bastien, Renault Group (Power Electronics - An opportunity for Europe's Industry and a valuable field of cooperation between Automotive & Electronics) and Elisa Vianello, CEA-Leti (The role of resistive memories to enable frugal AI devices) showed the scope of this year's SSI.

The five tracks were oriented along the entire value chain of Smart Systems and addressed Technology Readiness Levels (TRL) between 1 and 9, ranging from key enablers for smart systems of the next generation, to technologies and applications in various industries. Strategic topics were also discussed. 53 speakers - some live, some in recorded presentations - provided ample input and reasons for personal exchange.

The Thomas Gessner Award was presented for the 2nd time. It is a contribution of Fraunhofer ENAS to promote applied research by awarding a prize for excellent scientific work within the annual Smart Systems Integration Conference. The award is aimed at national and international master and doctoral students in the field of Smart Systems Integration whose thesis is evaluated at least with "very good" and does not date back more than two years. The evaluation procedure takes particularly into account the novelty of the scientific and methodological approach, the progress of knowledge, the implementation of the scientific results in application and proof of economic success. This year, the prize went to the young scientist Dr.-Ing. Ulrike Nabholz, Robert Bosch GmbH, for her doctoral thesis on "Physical

Modeling and Identification of Nonlinear Effects in Microelectromechanical Systems", which she prepared in cooperation with the Chemnitz University of Technology and successfully defended in 2020.

All participants of the conference were able to evaluate the poster contributions. On the last day of the event, the most exciting contribution was awarded the Best Poster Award. The winner was Claudia Bruno from STMicroelectronics for her poster presentation on "Embedded artificial intelligence approach for gas recognition in smart agriculture application using low cost MOX gas sensors".

Also in the next three months, all contributions of this year's SSI will still be available on the event platform. We would like to thank all speakers for their contributions and especially the companies and institutions Robert Bosch, Bosch Sensortec, Lynred, Renault, Infineon Technologies, STMicroelectronics, Fraunhofer , Tyndall National Institute, CEA-Leti, TU Chemnitz and TU Delft for their exciting technical presentations.

Fraunhofer ENAS, EPoSS and Silicon Saxony would like to thank all participants for their interest and all sponsors for their important support during these difficult conference times. We are already looking forward to Smart Systems Integration 2022, which will hopefully be under more "normal" conditions and probably be held from April 26-28, 2022 in Grenoble/France.

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