

Gettering and Defect Engineering in Semiconductor Technology (GADEST 2019)

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This issue contains 49 articles documenting a selection of contributions of the international conference GADEST 2019 which is held September 22-27, 2019 in Zeuthen, Germany. It is the 19th GADEST conference, which brings together more than 100 researchers from all over the world.

The GADEST conference series provides a forum for interaction between scientists and engineers engaged in the field of semiconductor defect physics, materials science and device technology. The conference is focused on fundamental aspects as well as technological problems associated with defects in electronic materials and devices ranging from microelectronics to photovoltaics.

This includes the optimization of Si as the host material for improved electronic and photovoltaic device function. It spans from crystal growth, defect and impurity engineering, stress engineering, source-drain and channel engineering, optimization of doping profiles, to interface and gate engineering.

It also involves the design of hetero-systems including material components other than Si as host material for improved and new device functionalities. Main fields are high frequency Si/Ge-electronics on Si, high mobility channel materials, heterogeneously integrated (III – V / Si) photonics, heavily doped carbon nanotubes as contacts.

Another main field covered by GADEST is the basic research on device physics, point defects, getter effects, and extended defects. In the center of interest are results obtained by spectroscopic methods, advanced measurement and detection methods, ab initio calculations and predictive modeling.

GADEST was established in 1985 in the former German Democratic Republic with the intention to bring together scientists from east and west in an international conference in the field of semiconductor device technology and defect physics. Since the beginning, it is organized biennially at remote locations because this facilitates interactions and discussions among the participants coming from both industry and academia. Since the wall fell down, the conference is travelling through Europe and was organized by scientists from institutions in Italy, Sweden, Belgium, France, Austria, United Kingdom, Germany, and Georgia.

With the suggestions of our International Scientific Committee and more than 100 submitted abstracts an interesting program was composed providing the fertile ground for fruitful discussions and interactions of all participants.

We gratefully acknowledge all authors and reviewers efforts for realizing this special issue and the continuous support of the editors and staff of *Physica Status Solidi (a)* during the editorial process. Their valuable impact made it possible to have the special issue ready at the beginning of the conference.

We also would like to thank the Deutsche Forschungsgemeinschaft, the European Materials Research Society, the Investor Center Ostbrandenburg, and the companies Applied Materials, ASM, Global Wafers Japan, KLA, and Park Systems for supporting GADEST 2019.

The organizers of GADEST 2019 cordially welcome all participants and guests in Germany!