

Preface

With the ongoing transition of the electrical power system to a more sustainable generation structure we need new ideas and solutions for a safe and reliable energy supply.

We named the NEIS event “Conference on Sustainable Energy Supply and Integration of Energy Storage Systems”. This implies that the future power system design demands a sustainable approach with several contributions and ideas from different application fields.

Therefore, we started in 2013 with the idea of a small conference with focus on innovative approaches in the field of electrical power systems. The intention was and still is to present new research results and to stimulate the scientific exchange between academia and industry. We switched to English in 2016 to establish a test platform for young scientists to exercise presenting to an international audience.

Since 2017 we organise the conference in association with the IEEE PES Germany Chapter Board. We thank the Cluster Renewable Energies Hamburg for their friendly assistance with the NEIS 2019.

The proceedings of this year will be printed and distributed by the VDE publishing house. This provides us with the opportunity to bring a selection of the best full papers into the IEEE Xplore database.

The NEIS 2019 was the seventh conference event, providing an annual occasion for scientists to present their current work. A special focus of this year's topics was placed on electrical power grids and grid related aspects such as grid monitoring and protection as well as electro-mobility.



The speakers and participants came from South Africa, India, Iran, Poland, Austria and Germany. Every year we have at least one international keynote-speaker to bring new impulse to the participants and enhance the international collaboration within the community.

Our keynote speakers were Prof. Dr. hab. Inz. Mariusz Malinowski from Warsaw University of Technology in Poland and Prof. Dr.-Ing. Martin Braun from Fraunhofer IEE & University of Kassel in Germany. Prof. Malinowski introduced us into the topic of „Fault Tolerant Smart Transformer in Distributed Energy Systems“. Prof. Braun presented his work on „Improving the Resilience of Power System Operation – Contribution of Renewable Energies in Power System Restoration“.

Many thanks to the keynote speakers. Their expertise gave great inputs and impulses to the discussions in the conference sessions. I am grateful for the commitment of the session chairs, the reviewers, the scientific advisory board and the presenting authors. They once again ensured the quality of the conference contributions and discussions.

Our always very engaged DLab-team of scientists and assistants guaranteed a trouble-free course of the conference. I would like to express my gratitude to all team members for all the nice ideas, organization work and support!

Last but not least, I thank the team of the local distribution system operator Stromnetz Hamburg GmbH for the organization of the interesting visit to the modernized 110 kV switchgear station in Hamburg-Jenfeld.

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