

Preface

This year's special situation with limited work and research opportunities because of the pandemic showed us once more how important an independent and sustainable energy supply is. In future, we need a safe, flexible and reliable energy supply to secure amongst other things also our further digital research exchange. For sure, we will have also more online communication and less presence than previously assumed.

In 2013, we started to provide a platform for the knowledge exchange among the parties involved in this process, from young researchers and acknowledged professors at the universities, to a wide variety of industry representatives, such as grid operators, well-established companies in the energy sector but also young start-ups with innovative new approaches. We named the NEIS event "Conference on Sustainable Energy Supply and Integration of Energy Storage Systems". This implies that the design of future power system demands a sustainable and systematic approach with contributions and ideas from different application fields and different perspectives.

The 8th NEIS conference in 2020 was organized with the technical support of IEEE PES Germany Chapter and IEEE Germany Section. Due to the global pandemic facing the world, the conference was held completely online for the first time in history. This format allowed the incorporation of even more keynote presentations and webinars than usual. We all have learned that the online format needs a very detailed preparation and the social aspects further plays an important role. At the end we were very happy about the active participants and the interesting discussions.

Despite the geographical distance, the atmosphere during the conference was still very good, as shown with a photo of a part of our participants during the first ever virtual toast.



The special focus of this year's conference was "Methods and practical approaches for power system planning and management". Three inspiring keynote presentations showed new insights into this topic. Prof. Malcolm McCulloch from the University of Oxford in the UK held a presentation on "Challenges for the Future Power

Systems”. Prof. Marco Liserre from the Christan-Albrechts University Kiel in Germany introduced the topic of “Unlocking the Hidden Capacity of the Electrical Grid through Power Electronics”. Finally, Dr. Tilman Weckesser from the Dansk Energi in Denmark presented the work on the project “multiDC – Towards a Holistic Integration of HVDC Links into Large-Scale AC Systems”. In order to get an insight into the recent developments in the industry, there were two webinars organized by the companies morEnergy GmbH and OPAL-RT.

Many thanks to our keynote and webinar 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 ensured again the quality of the conference contributions and discussions. Our always very engaged team of scientists and assistants guaranteed a trouble-free course of the conference. My special thank goes to Amra Jahic and Mina Eskander who successfully circumnavigated all virtual cliffs of our first online conference. Last but not least, I thank the Cluster Agency Renewable Energy Hamburg for their continuous support over the years.

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