Report on the 9th International Conference on Smart Grid (icSmartGrid2021)

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1. Introduction

The 9th International Conference on Smart Grid (icSmartGrid2021) was held from June 29 to July 1, 2021. Although the conference was planned to be held in Setubal, Portugal, it was held as a digital conference due to the COVID-19 pandemic all over the world. icSmartGrid is the annual world-class technical forum presenting the latest research topics in the smart grid, renewable energy technologies and their applications.

The icSmartGrid2021 is organized by the International Journal of Renewable Energy (IJRER). IEEE Industry Applications Society (IAS) and IEEE Industrial Electronics Society (IES) have joined as one of the technical co-sponsors. The IEE-Japan Industry Applications Society Conference (IEEJAS), one of the divisions of the Institute of Electrical Engineers of Japan (IEEJ), and the Institute of Electronics, Information and Communication Engineers (IEICE) support the conference in cooperation.

2. Opening Ceremony and Keynote Speeches

The conference program consisted of 5 keynote addresses, 1 tutorial, and 12 virtual technical sessions.

On June 29, the first day of the conference, the opening ceremony was held by General Chair, Prof. Vitor Pires, General co-chairs, Prof. Ilhami Colak and Prof. Fujio Kurokawa. After the opening ceremony, two high-profile keynote speeches were presented. The first keynote speaker, Mr. Masayuki Tobita, who is vice president of Toshiba Mitsubishi-Electric Industrial Systems Corporation (TMEIC), talked about “Contributions to Carbon Neutral through PEiE, Power Electronics in Everything”. The second keynote speaker, Prof. Thomas Strasser, Austrian Institute of Technology, Austria, presented on “Recent Research Trends in Designing and Validating Smart Grids” to realize a sustainable energy supply by the integration of renewable energy resources.

On the morning of June 30, the second day of the conference, the keynote speaker Prof. Kazuto Yukita, Aichi Institute of Technology, talked about “Study on AC/DC microgrids at Aichi Institute of Technology Eco-Electricity Research Center.” Also, Prof. Khaled Ahmed, University of Strathclyde, Glasgow, UK, gave the keynote speech about “Unlocking Opportunities for DC Grids by Fault Tolerant DC-DC Converters” to discuss the fault tolerant high power DC-DC converters with clarifying different topologies advantages and disadvantages.

On the morning of July 1, the last day of the conference, Prof. Peter Palensky, TU Delft, Netherlands, talked about “IEC61850 and Cyber-Physical Security of Power Systems” as the fifth keynote speech.

3. Technical Program

In this conference, 84 papers are submitted from 26 countries. The technical program committee selected papers for presentation by careful peer review process. Finally, 52 papers were presented. All presentations were organized in 12 technical sessions by using Microsoft Teams. The technical program was scheduled from Tuesday afternoon through Thursday afternoon. Each session was kept to the schedule, and attendees discussed about the interesting subjects, advances and developments in smart grid technologies and their applications. The best papers were selected from the conference proceeding. Selected papers will be published in the following journals cited in Web of Science with high impact factors: IEEE Transactions on Industrial Applications, International Journal of Renewable Energy Research, International Journal of Smart Grid, International Journal of Engineering Science and Applications, and Energies (in a Special Issue organized by the organizing committee of icSmartGrid).

4. Conclusions

The purpose of icSmartGrid is to bring together researchers, engineers, manufacturers, practitioners and customers from all over the world to share and discuss advances and developments in smart grid research and applications. icSmartGrid will continue promoting and disseminating the knowledge concerning several topics and technologies related to smart energy systems and sources.