

ICDCM 2019 Was a Big Success in Matsue, Japan

Sponsored by the IEEE Power Electronics Society (PELS), the third IEEE International Conference on DC Microgrids (ICDCM 2019) was held for four days from 20 to 23 May 2019, in Matsue, Japan. It offered 126 technical papers and attracted approximately 270 participants from 30 countries. This year's papers and attendees were far more numerous than the past two conferences. In addition to this significant increase, ICDCM 2019 provided an opportunity for exchanging opinions and ideas on the latest dc technology trends as well as exploring wide-ranging dc applications from both academic and industrial perspectives. ICDCM 2019 was a big success (Figure 1).

Offering high-quality discussions, ICDCM 2019 contributed to creating a new community of people interested in areas where dc technology can play an important role, such as electric power grids, transportation, communications, data centers, and independent power supply systems in developing countries. The community sought solutions to issues that are arising from the mass introduction of renewable energy, storage batteries, and electric vehicles; examined business opportunities from global perspectives; and shared valuable and timely information on dc technology. Summaries of each of the four days of the conference follow.

Day 1: 20 May

The first day of ICDCM 2019 included tutorials, workshops, and a panel discussion. The tutorials consisted of two parts: one focused on grid control, and

the other discussed dc technology for stored energy and storage batteries. During the tutorials, five outstanding lectures were delivered. From the very beginning, there was a large audience in attendance (approximately 100 people) and active discussion and question and answer sessions. The next workshop demonstrated the hardware-in-the-loop (HIL) simulation method. The IEEE is currently working in this area, with a focus on its applications. Three experts shared the latest information on HIL and were followed by a panel discussion that examined blockchain with a dc interface, such as distributed energy resources and storage batteries. Enthusiastic discussions were held among the panelists and the audience, even after the scheduled end of the session. In the evening, a reception was held where the participants enjoyed further discussions, socialized, and experienced a traditional Matsue art performance. For the first time, exhibition booths were set up by companies and organiza-

tions working on dc technology applications to share latest information on the technology and their efforts. Since those booths were placed within the reception venue and the coffee breaks areas were in the same space, networking among the participants was naturally improved.

Day 2: 21 May

The second day began with opening remarks from Prof. Frede Blaabjerg, PEELS president, and representatives from each of the three technical cosponsors, the Institute of Electrical Engineers of Japan, the Institute of Electronics, Information, and Communication Engineers, and the Institute of Electrical Installation Engineers Japan, introduced the efforts and activities of their respective organization.

The opening session was followed by two keynote speeches

- 1) a commercial dc microgrid data center that had kept performing during a massive power blackout in Hokkaido in 2018



FIG 1 ICDCM 2019 attendees. (Source: ICDCM 2019.)

2) dc technology microgrids in North America.

In addition to traditional oral presentations, ICDCM 2019 also included poster sessions for two days. Fifty-six posters were presented [close to the number of oral presentations (70)]. The 80-min poster sessions attracted a wide audience, and questions to the presenters never stopped. There was also a special session and an invited session that investigated the dc technology for electric railroad systems, trends in dc applications in the United States, and microgrid expansion efforts with a focus on data centers in Japan. Thanks to the remarkable presentations and active participants, the success of the



FIG 2 The special boat excursion from the conference venue to Matsue Castle offered at ICDCM 2019. (Source: ICDCM 2019.)

second day was greater than the organizers expected.

Day 3: 22 May

On the third day in the afternoon, a boat excursion was provided. It began

on the river by the Shimane prefectural convention center Kunibiki Messe and headed for Matsue Castle, one of Japan's national treasures (Figure 2). The route for the boat excursion was opened that day specifically for ICDCM 2019 and had been approved by Japan's Ministry of Land, Infrastructure, Transport, and Tourism. Thanks to the great weather, the participants were able to enjoy the great view and pleasant breeze while on the boat. Because this excursion was carried out for the first time in Matsue, it gathered attention from local media and was broadcast on local TV news. The participants visited Matsue Castle and explored the inside and enjoyed the breathtaking view of the city from



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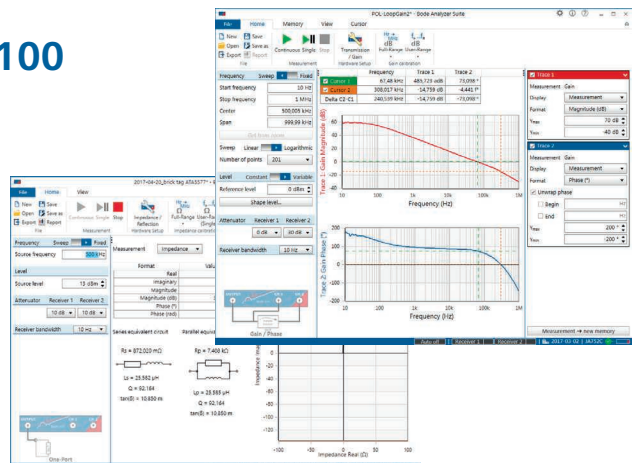
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atop the 400-year old castle. The last destination was the Adachi Museum of Art, a graceful Japanese garden that has been chosen as the best Japanese garden for 16 straight years. After enjoying the garden's stunning beauty, the participants were led to a reception venue decorated in a Japanese traditional style. Throughout the day, the participants made new researcher connections and friends.

Day 4: 23 May

At the closing session on the final day, a conference wrap-up was followed by an award session that recognized the six best presenters, three each for oral and written presentations, with the aim of further motivating the awardees and promoting future dc technology. Also new this year for ICDCM was the launch of a travel support grant for students. This grant was established as part of the IEEE's Applied Power

Electronics Conference and Exposition 2019 efforts to foster young researchers and increase the number of PELS members. Approximately 10 new members joined PELS during ICDCM 2019, which was a major achievement.

Since ICDCM is a new conference (this was its third year) that explores relatively new research fields, developed and developing countries can equally participate in the discussions on the technology. The number of ICDCM 2019 participants, as mentioned previously, was approximately 270, which made it possible for the attendees to get to know each other by name and recognize faces over the four days. Large international conferences have been increasing worldwide, but how large a conference is must be carefully considered to maximize participants' benefits. At the beginning, many expressed concerns about holding ICDCM 2019 in Matsue,

a relatively small city, even for Japan. However, we are all confident that its participants from all over the world understood why we held ICDCM 2019 here. It would be a safe choice to have an international conference in convenient urban cities, such as Tokyo and Osaka. However, we chose Matsue with the hope that we could offer as many participants as possible with an opportunity to experience Japanese culture and traditions, and we're glad that this location was a success.

The ICDCM 2019 committee has already received a great deal of favorable feedback on the conference. We will use the valuable comments and opinions to improve the next ICDCM. My deepest appreciation is given to all the volunteers who worked with me, members of the IEEE PELS, and local committee members for their tremendous contribution and dedication. I truly thank you.

by Ashok Bindra

Brightest Minds to Converge at the 11th IEEE ECCE

The 11th annual Energy Conversion Congress and Exposition (ECCE) will be held in Baltimore, Maryland, from 29 September to 3 October. Considered a pivotal international conference and exposition on electrical and electromechanical energy conversion, ECCE will feature both industry-driven and application-oriented technical sessions. Approximately 35 exhibitors will display the latest technologies and products. ECCE will bring together practicing engi-

neers, researchers, and other professionals for interactive and multidisciplinary discussions on the latest advances in various areas related to energy conversion.

The IEEE Industry Applications Society (IAS) and the IEEE Power Electronics Society (PELS) are co-sponsors of the ECCE. Also, Baltimore, Maryland is the same location where both the IEEE IAS and ECCE will host their annual meetings. IAS and ECCE will each hold their annual meetings in Baltimore at the same time as the ECCE. Attendees can choose to register for ECCE alone, or they can register for both the

ECCE and the IAS Annual Meeting at a reduced combined rate.

In a greeting message to all power electronics engineers and researchers, including members of PELS and IAS, ECCE 2019 General Chair Prof. Yan-Fei Liu said, "We bring together a multidisciplinary group of researchers, engineers, and scientists from all over the world to present and exchange breakthrough ideas related to energy conversion systems and technologies. The ECCE is unique in our emphasis on integrated systems, presenting the best in applied integrated systems research together with innovations in individual energy