Conference Report

ISLPED 2020: An Experience of Virtual Conference During COVID-19 Time

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■ **THE ABSTRACT AND** full paper deadlines for International Symposium on Low Power Electronics and Design (ISLPED) were March 16th and 23rd, 2020. On March 11, 2020, the World Health Organization (WHO) announced COVID-19 a pandemic and in the following weeks many countries and states immediately issued stay-at-home order. This situation adversely affected the submission to the conference. The conference received 123 legitimate full paper submissions, which is 25% lower than last year. The majority of the submissions were from America (57%), Asia (26%), and Europe (16%). The main contact authors come from 21 different countries. Technical Program Committee consisted of 102 experts from all over the world who reviewed the submissions. The review meeting took place online on May 16, 2020. Each track had its Zoom meeting hosted by the track chair/co-chair. The committee accepted 30 regular papers (~23% acceptance rate) and 12 poster papers (~34% acceptance rate). The acceptance rate is the same as the last year.

The size of the past ISLPED conference ranged from 120 to 200 attendees, which qualifies it to a small/medium conference size (according to IEEE and ACM standards) that can be accommodated using the virtual Zoom meeting. After discussing with the Steering Committee, we decided to make the program single track instead of the traditional dual track, so that only one Zoom meeting needs to be hosted during the three days. Figure 1 gives the program of the ISLPED 2020.

As the size of the conference is relatively small, it allows us to provide live presentations. We believe that live presentations will create more activities and attract more interactions than recorded videos. To keep the program within the time frame that is acceptable to the majority of attendees, we asked the authors of the accepted papers to prepare two presentations. One is a full-length (20 minutes) presentation, which was uploaded to the ACM digital library and will be available for access for the registered attendees on the day of the conference. The other is a five-minute short presentation, which was uploaded to the conference website and available for view one week before the conference to attract interest in the community. A similar short presentation was planned to be given again by the speaker during the live session of the conference. A 15-minute Q&A part was allocated in each session after all presentations, for the audience to interact with the speakers. In this way, we were able to keep each session to 30–40 minutes. With the reduced session length, the conference started at 10 A.M. and concluded at 1 P.M. U.S. Eastern Time each day. We observed that the attendance is always above 60 attendees at any moment of the day, and also quite steady (in total amount per session) throughout the entire program.

In addition to the live sessions and ACM, we also created an asynchronous discussion forum on Slack. Channels were created for each session and all registered attendees were invited to join. Student volunteers collected information from the

ISLPED will be a virtual event on Zoom		
3-days of Existing Programs on Low Power Design		
Day 1: August 10th	**Day 2: August 11th**	**Day 3: August 12th**
Welcome by General and Program Co-Chairs	Keynote Talk 2: Prof. Marian Verhelst (KUL, Belgium) "Enabling deep NN at the extreme edge: Co-optimization across circuits, architectures, and algorithmic scheduling"	Best Paper Announcement
Keynote Talk 1: Prof. Bill Dally (Nvidia Corporation, USA) "Low-Power Processing with Domain-Specific Architecture"	Session 2A: Tuning the Design Flow for Low Power: From Synthesis to Pin Assignment	Design Contest
Session 1A: Energy-efficient Machine Learning Systems	Poster session	Session 3A: Memory Technology and In-memory Computing
Session 1B: From CMOS to Quantum Circuits for Sensing, Computation and Security	Session 2B: Energy Efficient Neural Network Processors: Compression or Go for Near-sensor Analog	Session 3B: Low power system and NVM
Session 1C: Smart Power Management and Computing	Session 2C: Non-ML Low-power Architecture	Session 3C: ML-based Low-Power Architecture

Figure 1. Three-day program of ISLPED 2020.

Slack and provided them to the session chairs each day during the conference as potential discussion topics in the live session. Overall, there are 435 messages received on the Slack discussion forum. Figure 2 shows the number of active members and the number of messages read from July 31, 2020, till now. The fact that there were active members and message-reading activities several days before and after the conference shows that the asynchronous discussion forum is very successful.

We made it a point to maintain the tradition of ISLPED to include a poster session and a design contest session this year too. The poster presenter also provided their five-minute short presentation on the conference website and the live session is just a Q&A session of 30-minute duration. We received 13 design contest submissions and seven were selected to be presented. The design contest had one 30-minute session in the main conference, during which the speakers gave live presentation about their projects. After that separate Zoom meetings parallel to the main conference were created for each project, where the presenter will give live demo online and

that audience and judges can have closer interaction with them.

Despite the pandemic, this year's ISLPED had 140 registered regular participants, which is 12% higher than the last year. Part of the reason is the reduced registration fee. The registration fee of IEEE/ACM member is only $50 (early bird) and $75 (regular). The Zoom conference effectively reduced costs. With the help of a gold industry sponsor, Intel Corporation, which has been a long-term corporate sponsor of ISLPED, the conference has a surplus at the end. In fact, this surplus guarantees the requested budget margins by ACM and IEEE for conferences, even though the registration fees were very low this year ($50 for the complete conference for ACM/IEEE members and $25 for students, early registration both).

ALTHOUGH WE HAD fun and gained a lots of knowledge and experience on how to organize a virtual ISLPED conference through this years' experience, the main conclusion (also shared by most of the attendees) is that we all still miss the face-to-face interactions with colleagues and
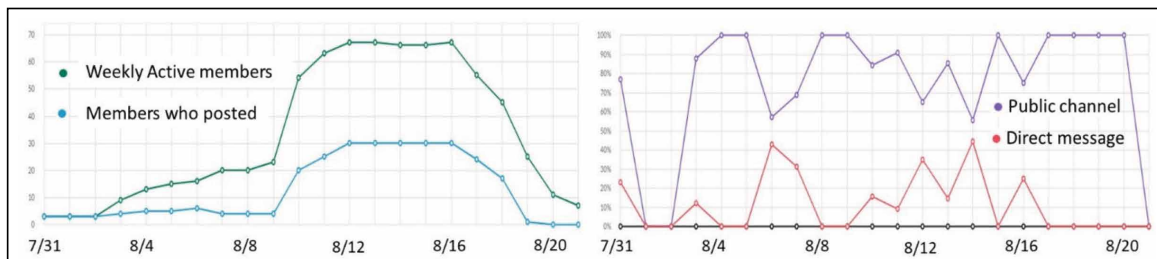

Figure 2. Slack activities: active members (left) and messages read (right).

friends to create a truly networking experience, which is one of the key drivers for a scientific conference. In particular, this year was the 25th anniversary of ISLPED, however, we were not able to hold the celebration online. Indeed, before the pandemic situation required the conference to be virtualized, the local chair had already put a great effort into selecting the venue and planning the social activities having Boston as hosting city. Therefore, we really trust that everything will be back to normal next year so that the efforts will be capitalized, and the 25 years of ISLPED can be celebrated face-to-face with the complete ISLPED community. We are truly looking forward to it! ■

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