

Report on Japan–Africa Conference on Electronics, Communications, and Computations 2020 (JAC-ECC2020)

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1. Introduction

The Japan–Africa Conference on Electronics, Communications, and Computation 2020 (JAC-ECC2020) was held as an online virtual conference during December 14–15, 2020. The conference, organized through international collaboration between Kyushu University in Japan and the Egypt–Japan University of Science and Technology (E-JUST) in Egypt [1], was also technically co-sponsored by the Technical Committee of Radio Communication Systems (RCS) and the Technical Committee of Communication Systems (CS) of the IEICE Communications Society [2] (IEICE-CS), and the IEEE Egypt Section [3]. The IEEE Fukuoka Section was a conference supporter.

This international conference addressing the fields of electronics, communications, and computer engineering, JAC-ECC stands out among engineering conferences, offering unique value. The conference features formulation of academic and human networks among international researchers from academia and industry in Japan, the Middle East, and Sub-Saharan Africa.

This report briefly provides historical background and an overview of JAC-ECC2020 while introducing an invited presentation related to information communications technologies (ICT) in Japan, in cooperation with IEICE Communications Society and JAC-ECC committee. Actually, JAC-ECC2020 is the eighth international conference. The past seven conferences were held either in Egypt (six times) or Japan (once). Because of the continuing COVID-19 pandemic, the conference organizing committee decided to hold JAC-ECC 2020 as an online virtual conference.

2. JAC-ECC History and Overview

In 2012, Kyushu University and E-JUST co-organized an international conference called the international Japan–Egypt Conference on Electronics, Communications and Computers (JEC-ECC). Since then, it has been held four times: once in Japan (Fukuoka in 2015) and the rest in Egypt (2012, 2013, and 2016). Most articles presented at JEC-ECC have been published in the IEEE Xplore online library of the Institute of Electrical and Electronics Engineers (IEEE).

As an advanced edition of JEC-ECC, a renewed international conference, JAC-ECC was organized in 2017. Unlike the four conferences mentioned above, JAC-ECC (with “A” for Africa in place of “E” for Egypt) was organized as a platform for extending



Fig. 1 Organizing committee members at JAC-ECC online virtual conference center in E-JUST Campus (in Egypt).

collaboration among international researchers in Japan and Middle-Eastern/African countries. The second and third editions of JAC-ECC (i.e., the Seventh Edition Conference in total) were held respectively in 2018 and 2019 at the E-JUST campus. Unlike earlier years, because of the continuing COVID-19 pandemic, JAC-ECC2020 was held as an online virtual conference, unlike the past seven conferences including JEC-ECC. The Zoom webinar was used as an online virtual conference tool, so that all keynote, invited, and regular session presentations were presented online. Figure 1 depicts some organizing committee members at the virtual conference center at the E-JUST campus.

The organizing committee and technical program committee members of the conference were invited from various countries such as Japan, Egypt, Canada, Saudi Arabia, New Zealand, Germany, and Ireland [1]. The members participated in the conference. For this conference, the Technical Committee of Radio Communication Systems (RCS) and that of Communication Systems (CS) in the IEICE

Communications Society also cooperated as they did in earlier conferences (JAC-ECC and JEC-ECC).

JAC-ECC2020 includes nine main technical tracks:

- Artificial Intelligence
- Big Data Analytics and Cloud Computing
- Communications
- Circuits and Systems
- Signal, Image, and Video Processing
- Microwave and Antennas
- The Internet of Things (IoT)
- Biomedical Engineering and Applications
- Smart Grids

The JAC-ECC technical program committee (TPC) peer-reviewed all submitted articles. Contributing to the peer-review process, the TPC was supported by experts in the fields of electronics, communications, and computers from Australia, Canada, China, Egypt, Japan, India, Kuwait, Malaysia, New Zealand, South Africa, South Korea, Sweden, and the United States. At JAC-ECC2020, the technical program committee received 38 submissions. Among the submissions, 21 papers were accepted, with a 55% acceptance ratio in the final program. The accepted papers were presented in oral online sessions similarly to other international conferences in the same research field.



Fig. 2 Opening Session in JAC-ECC2020.

3. Technical Session

The technical program of JAC-ECC included four regular technical sessions. Additionally, we organized

the special session as an international workshop. Furthermore, we had keynote sessions for five invited speakers, all of whom were leading engineering researchers. In the conference, technical regular sessions were held on the first day of the conference. Figure 2 depicts the opening session in JAC-ECC2020 held through the Zoom webinar at beginning of the conference.

In JAC-ECC2020, we organized a workshop entitled “5G Communication for Smart Cities” with presentations by prominent researchers from Japan and Egypt. Each presentation had 40 min for a presentation and 5 min for questions. Impressive topics were presented such as wireless communications, the Internet-of-Things (IoT) technologies and vehicular networks. At this workshop, we were privileged to hear an invited lecture [4] from Japan by Dr. Celimuge Wu (University of Electro Communications) as a member of IEICE and an expert in information technologies as shown in Fig. 3.



Fig. 3 Invited presenter in the workshop (Prof. Wu).

4. Conclusion

JAC-ECC 2020 was the eighth edition of the conference including the past four editions of JEC-ECC organized through international collaboration of Kyushu University and E-JUST in cooperation with the IEICE Communications Society. Details and venues of the next edition of the conference, JAC-ECC, have not been determined yet. For additional information, please visit our conference site [1]. We welcome your submission to the conference. Finally, we express our sincere gratitude to all speakers, participants, and committee members for their contributions to the conference.

References

- [1] JAC-ECC2020 website:
<https://jac-ecc20.ejust.edu.eg/>
- [2] IEICE Communications Society website:
<http://www.ieice.org/cs/>
- [3] IEEE Egypt Section website:
<http://www.ieee.org/eg/>
- [4] C. Wu, “Collaborative Intelligence for Internet of Vehicles,” Dec. 2020.