

The 23rd East Asia Round Table Meeting Minutes

15:30-16:30 November 30, 2020 Seoul, Korea

Attendees

NAEK

Oh-Kyong Kwon, President of NAEK

Kyungho Shin, Chief Researcher, Korea Institute of Science and Technology

Inkyu Lee, Professor, Korea University (Chair of International Affairs)

Bohun Kim, Director of Programs, NAEK

Narai Kim, International Affairs, NAEK

Shinhye Kim, International Affairs, NAEK

Jiesoo Yoon, International Affairs, NAEK

CAE

Chen Wang, Vice President, Chinese Academy of Engineering

Jiayi Cheng, Director-General of Department of International Cooperation

Yiqiang Chen, Senior Researcher, Chinese Academy of Science

Hongtao Ren, Director, Division II, Department of International Cooperation, CAE

Yu Zhu, Researcher, Division II, Department of International Cooperation, CAE

EAJ

Koichi Morimoto, Executive Director, EAJ

Nozomu Mishima, Professor, Akita University

Kaori Yoneno, EAJ

Agenda

- 1. Greetings by NAEK President**
- 2. Academies Current Activities Introduction**

Three member academies shared their recent activities and areas of interest.

National Academy of Engineering of Korea

Prof. Inkyu Lee

NAEK introduced the organization, members, and other new business. There are total of 1,156 members in NAEK, well-represented with 56% from academia and 44% from industry.

In 2020, the NAEK hosted CAETS 2020, with the title of “Engineering a Better World – Smart Society”. Amid many concerns of COVID-19, NAEK successfully hosted CAETS 2020 both online and offline for the first time in the history of CAETS. Also, Engineering Education Innovation Forum was held in November, on the topic of “The status and best practices of non-face-to-face engineering education in 2020,” and participants

shared education status survey, which was also available online. Based on the survey results, the participants agreed that the students need a new online education system with smooth communication between the instructors and the students. NAEK also held online junior engineering achievement classes to stimulate young students' interests in STI during the pandemic. The last activity introduced was the COVID-19 special committee. It was organized to seek alternative solutions to restore a safe and healthy society from the engineering point of view and propose appropriate governmental policies.

Chinese Academy of Engineering

Dr. Chen Wang

CAE has 904 full members in total as of November 2020, and the next election will take place in 2021. As a national think-tank, CAE implemented projects in scientific and technological innovation system and mechanism, Global Engineering Frontiers 2020, a quick response system of public health emergence in China, a development strategy of the intelligent healthcare ecosystem under the "Healthy China Initiative", and a green transformation and development strategy for chemical industry.

CAE, in response to COVID-19, organized its members to advise decision-makers and communities. Its activities included launching a series of special studies on pandemic issues, developing an online column to provide a knowledge center for engineering and S&T, and participating in the international online meetings. Some advice and solutions against COVID-19 are Fancang Shelter Hospitals, research on reusing masks, and bio-chip testing tools. CAE also participated in international activities, such as 2020 International Forum on Innovation and Emerging Industries Development (IEID 2020) held in September at Shanghai, and other international online meetings.

Engineering Academy of Japan

Dr. Nagai Kotobu

EAJ has total of 820 Japanese members as of November 2020, a thirty-percent increase compared to 3 years ago. There are 39 foreign associates, and 52 corporate members. Recently, EAJ created a new committee called Co-creation Committee of Public Policies to provide opportunities to collaborate among various experts, in relation to various institutes focusing on S&T policies.

The four pillars of EAJ activities are policy proposal, inter-academy collaboration, human resource development, and regional activity. Some major events since 2018 include organizing symposia and workshops focusing on next-generations material system, human resource development, and science for policy making. EAJ also

encouraged local branches to discuss timely topics by making use of regional characteristics. These include diversified social contributions through engineering and medical engineering information collaboration. From December 2020, Hokkaido branch and Tohoku branch will be independently working, to contribute to regional development. The policy proposals integrate the objective views of various parties' concerns.

The industry ratio and number of female members are steadily increasing. EAJ also encourage the participation of young generation, and foreign members.

3. Discussion on the 2020 Survey on Technological Cooperation among China-Japan-Korea

Dr. Hae Jung Lee

The questionnaire was drafted by NAEK this year and finalized with inputs from other two academies. Total number of respondents were 235. 123 members from NAEK (52%), 65 members from CAE (28%), and 47 members from EAJ (20%) answered the questionnaire.

The technological cooperation index included five factors: Necessity for cooperation, Expectations on the benefit of cooperation, Level of cooperation in terms of quantity, Level of cooperation in terms of quality, and Future prospect and potentials. The technological cooperation index marked a slight decrease in the three countries, and the necessity and the expectation on the cooperation index rose slightly in China and Japan. Therefore, actions to strengthen, facilitate and expand trilateral cooperation are necessary.

All three countries answered that the high-speed internet and mobile technologies require cooperation among China, Japan, and Korea in order to develop the smart entertainment industry and technology in an era of the 5G mobile communication, and consider 'VR/AR/MR' as the sector in virtual interaction technology that requires trilateral cooperation the most to implement smart entertainment.

On the innovation trends on smart entertainment, the most frequent answer to the level of technology required to implement smart entertainment in Korea was 'can be implemented well', whereas in China and Japan showed 'somewhat possible.' On the other hand, the most frequent answer to the current level of contents creation technology to implement smart entertainment was 'not sufficient yet' in Korea, whereas it was 'somewhat possible' in China and Japan. Also, Korea showed a positive viewpoint on the impact of engineering technology on the game industry, but China and Japan showed rather negative viewpoints.

4. 24th EA-RTM Proposal

CAE proposed two plans for the 24th EA-RTM, considering the uncertainties including the COVID-19. Plan A, if international travel is convenient, will take place on October 21-22, 2021, with the location to be decided. The schedule will include the symposium and RTM on the first day, along with a technical tour on the second day. Plan B, if international travel is inconvenient, will take place on October 21, 2021, as an online meeting. The theme of the RTM will be micro-electromechanical systems, with the sub-themes of MEMS in auto industry, healthcare, and other sectors. The 2021 Survey on the Technology Cooperation will also be carried out under the theme of MEMS.

5. The China-Japan-Korea Forum on Better Services for the Elderly, Ageless Aging and Assistive Augmentation (4AforAging)

Dr. Yiqiang Chen, CAS

Population aging is a huge social problem that China, Japan, and Korea face. In addition, the disability issues are the social problems that cannot be ignored. In order to deal with these issues, the forum was launched, inviting the expert reports and panel discussion sessions on the topic. There have already been four forums since 2017, with nearly one thousand participants. The first CJK forum dealt with the topic of “AI-enabled technology for the elderly and the disabled”, the second forum discussed on the “AI-driven intelligent ubiquitous services”, the third forum had the theme of “Federated learning and mobile medical”, and the fourth forum was on “Robots and health monitoring in the cognitive era.” In the future, the forum is expected to serve for the elderly and the disabled based on interdisciplinary technology, invite academy, industry, and government for active discussion, promote regional research cooperation, and help CJK’s future aging societies. Dr. Yiqiang Chen urged participation of three academies on this project.

Close of meeting.