

Minutes of the 16th EA-RTM Meeting

Date and Time

Monday, 16 December, 9:00-16:00

Venue

Celestine Hotel, Mita, Tokyo

Participants

The Chinese Academy of Engineering (CAE)

XIE, Kechang	Vice President
KANG, Jincheng	Deputy Director-General, Dept. of International Cooperation
REN, Hongtao	Director, Division Two, Dept. of International Cooperation
ZONG, Yusheng	Secretary and Special Assistant to Vice President
ZHU, Yu	Project Official, Dept. of International Cooperation

The National Academy of Engineering of Korea (NAEK)

KUM, Dongwha	Executive Vice President
KIM, Doh Yeon	Professor, Seoul National University
LEE, Kunwoo	Dean, School of Engineering, Seoul National University
PARK, Seung Bin	Dean, School of Engineering, KAIST
JOO, Young Sup	Invited Professor, Seoul National University
PARK, Eun Yeong	International Relations and Administration
KIM, Narai	International Relations and Administration

The Engineering Academy of Japan (EAJ)

KOMIYAMA, Hiroshi	President
KOIZUMI, Hideaki	Chair of the Committee of International Affairs and Hitachi Fellow
KAMIMOTO, Masayuki	Assistant to the President, Hirosaki University
YAMADA, Koichi	Deputy Director-General, Center for Low Carbon Society Strategy, JST
MISHIMA, Nozomu	Professor, Akita University
KUNO, Mineya	Associate Executive Director
YUHARA, Yoshihisa	Secretary General
TANAKA, Miyuki	Administrator for International Affairs

References

Reference 1: Academic Compilation of 2012 Fukuoka Symposium

Reference 2: CAE/EAJ/NAEK's Proposition to their Governments

Agenda

1. Welcome by the EAJ president.

The opening of the 16th EA-RTM was announced by Prof. Komiyama, EAJ President. As the previous RTM was postponed, this meeting will be the first one in these 2 years. At the beginning of the meeting, a silent prayer was dedicated to mourn the passing of Prof. Charles Vest, former President of the National Academy of Engineering, U.S.

2. Self introduction from participants.

Brief self-introductions of the participants were carried out.

3. Confirmation of the minutes of the 15th RTM.

The minutes of the 15th EA-RTM were confirmed after correcting a typographical error in the participant's name. It was announced by the chairman that further necessary corrections pointed out by the end of the meeting would be reflected in the minutes.

4. Review of the 16th EA-RTM planned for 2012 which did not actualize

Dr. Koizumi remarked that a wrap-up of the unrealized RTM symposium should be discussed because significant effort and contributions went into preparations and the proceedings were published. Referring to the proceedings, he introduced the planned contents for the closing remarks focusing on such main points as: "summary of the presentations," "modified Maslow's hierarchy of happiness," "difference between science and engineering," "symbiosis and coexistence". Dr. Koizumi then concluded that collaboration between the three nations was indispensable.

- # Reference 1: Academic Compilation of 2012 Fukuoka Symposium

Comments received:

- The reference of the Oriental way of thinking is interesting. But, in Western countries there have been discussions on Libertarian and Communitarian. Some reflections or comparison might be interesting.

5. Survey on China-Japan-Korea Technology Cooperation - Results of 2013 survey and a future plan –

Prof. Joo who was in charge of the survey on environmental technologies headed by NAEK introduced the results of the survey:

- Overview of the survey consisted of objective, process, committee and number of respondents.
- Based on the survey result, it was concluded that since technical collaborations were highly demanded in every country, practical implementations such as joint

R&D or schemes for collaborations were needed.

Following comments were received:

- At the first glance, it seemed that the opinions of 3 countries were different. However, by including the 2nd priority as well, the survey result seemed very alike.
- It would be good if this survey could be conducted every year. About the specific technology, the three countries can change topics.
- NAEK really appreciates all the members. If every academy agrees, they would like to continue this kind of survey. The next issue is how to use this data.
- NAEK has analyzed the data and written a report in Korean.
- Inputting this to the government is the most important. Anyway, we should start some collaborative research by saying something to each government.
- This is a wonderful activity. But, before opening this result, we have to brush-up the result.

As the result of the discussion, following points were agreed on.

- The survey result says that the obstacles and problems for collaboration are lack of interest from the government and lack of mechanism for collaboration. So, as a responsibility to those who collaborated in the survey, every academy should try to input this to decision makers.
- NAEK suggested that EA-RTM will make a strong statement so that each academy can bring it to the each government. However, CAE representatives commented that they should first get agreement from CAE for the statement.
- As the practical procedure, NAEK will also make a draft statement and then would have comments from other two academies.

Reference 2: CAE/EAJ/NAEK's Proposition to their Governments

6. Presentation on activities of each academy

Overview and activities of interest of CAE were presented by Dr. Kang. Then, overview and activities of NAEK were presented by Prof. Lee. Subsequently, overview and activities of EAJ were presented by Mr. Kuno. Following each presentation, there were some Q&As.

7. Proposal for the 17th RTM (Sept. 24-25, 2014)

Dates : 24th-26th Sept. 2014,

24th (Wed): reception, 25th (Thu): meeting, 26th(Fri): Tour

Symposium theme: Emerging technologies for aging society; 3 sessions

Venue: Haevichi Hotel and Resort Jeju

Remarks: No visa required.

It was discussed who should be invited. It was proposed and agreed to invite some social scientists to widen the scope of topics and deepen discussions. Regarding the 17th

RTM, it was suggested that Australia and ASEAN countries could be invited as candidate observer countries, apart from China, Korea and Japan. The CAE suggested that, it was the host country's discretion to invite whichever engineering organizations to participate in the symposium, but that the RTM should be the closed meeting of the CAE, EAJ and NAEK only.

8. Forum on "Energy Policy facing the New Century: Changes in Energy Production and Energy Consumption Patterns"

This forum was arranged at the suggestion of CAE and firstly Prof. Xie from CAE gave a lecture about the energy policy and situations in China. It was shown that the energy policy and strategy in China was under a major shift, and that demand supply coordination can be the key. Secondly, Prof. Park from NAEK lectured about Korean activities towards a lower carbon society. Some efforts regarding new and renewable energy, improvement in energy efficiency, smart grids, and so on were mentioned. Finally, Prof. Yamada from EAJ gave a presentation about Japanese efforts towards a low carbon society. Energy consumption patterns in daily life were shown and some efforts including "top-runner program," "PV" and "transition on energy structure" were introduced. Questions, answers and comments on the presentations, and overall discussions took place after the three presentations.

9. Discussion for the future of the EA-RTM

Free discussion was held on the future of EA-RTM. Main comments were:

- If two other academies agree, the survey will be continued from NAEK. Other topics can be discussed through the survey.
- It might be good to set a coordinated topic with the symposium. For example, "aging society" can be a good topic for the next survey.
- There are many points that could be discussed. Free market vs subsidy. PV vs Nuclear, etc.
- To make a long-term decision, market economy or controlled economy?

10. Closing remarks

There were closing remarks from 3 academies. Dr. Kum from NAEK told that although the last RTM was postponed, today's discussion was very good. He also mentioned that by utilizing the continuous survey, NAEK would provide an opportunity for fruitful discussion at the next EA-RTM.

Dr. Xie from CAE stated that CAE would host the CAETS Convocation in June 2014. All of today's attendees will be invited. More than 1,000 participants are expected.

In concluding the meeting, Prof. Komiyama, President of EAJ remarked that face-to-face discussion was the key to fruitful collaboration.

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Academic Compilation of 2012 Fukuoka Symposium

Abstract of the Planned Symposium in Fukuoka in September 2012

The Engineering Academy of Japan (EAJ)
The Chinese Academy of Engineering (CAE)
The National Academy of Engineering of Korea (NAEK)

I. Forward

1. The East Asia Round Table Meeting of the Academies of Engineering (EA-RTM) has been held almost annually primarily among the Academies of Engineering of Japan, China and South Korea (EA Academies of Engineering) to discuss issues in engineering from cultural and academic perspectives beyond conceptual and cultural differences. The 16th EA-RTM held in 2013 was historically significant as numerous difficulties had to be overcome to hold the meeting. The last EA-RTM, which was scheduled for September 2012 in Fukuoka, Japan, was postponed due to unfortunate circumstances. It is a statement to the strong desire of the Academies of Engineering in the three countries to cooperate for the betterment of society that the 16th EA-RTM was held in Tokyo in 2013. The Engineering Academy of Japan (EAJ) expresses its deep and sincere gratitude to the Chinese Academy of Engineering (CAE) and the National Academy of Engineering of Korea (NAEK) and those who have given their time and made tremendous efforts to see this happen.
2. The past few years have seen unprecedented disasters. In Japan, a huge earthquake with multiple seismic sources and a huge tsunami causing catastrophic disaster occurred. This natural disaster caused a serious accident at a nuclear power plant, which until then was considered the optimal energy option for effectively controlling global warming and stabilizing the global climate. Nationwide restoration efforts continue to address the aftermath. The EA Academies of Engineering have played significant roles in addressing solutions to this crisis and will continue to do so toward the further restitution and development of society.

II. Human Security and Well-Being

1. The fall of the Berlin Wall in 1989 marked the end of the Cold War and saw the birth of a new concept of human security, the concept of common security applied to humans. Human security (or “*ningen-no annei*”) refers to the allied efforts of all humankind to address common issues such as global warming and pandemic diseases. Security, or *annei*, refers to peace and safety, which serves as the most

basic social foundation for human life. Immediately after the welfare-oriented European countries achieved what was accepted as a high standard of safety and security for their citizens, a high suicide rate became a problem. Although security is a requirement for survival, it was not sufficient for a high quality of life. Humans feel happiness in interacting with others, sharing joy and engaging in meaningful activities. Thus, a more positive and active element needs to be part of human security. Quality of life or “well-being” was combined with “security,” resulting in the concept of “human security and well-being.” This comprehensive concept includes issues currently being confronted, for example, energy production and allocation, environmental harmony, mental and physical healthcare, urbanization and aging.

2. Engineering and science can provide effective solutions toward human security and well-being. The core concept of scientific technology consists of Science, Engineering and Technology (SET) or Science, Engineering, Technology and Art, hereinafter “SET(A).” The origin of the stem of science, “*sci*,” is from the ancient Greek “*skei*,” which means “split/divide.” Science refers to activities that unravel the world of nature, including humans, via reductionism or divisions and analyses. The “-*gin*-” of “engineering,” which corresponds to the old Greek “-*gen*-,” means to “give birth.” This also means creation and/or emergence. Therefore, ethics is more closely linked with engineering than science. Technology and art originated from the old Greek *tekhne*- or the old Latin *ars*, both of which refer to bringing new man-made items into the world of nature.
3. It is essential to realize societal innovation that addresses energy, environmental, health, educational and other issues utilizing SET(A) to achieve human security. To ensure the sustainable emergence of societal innovation, it is necessary to establish an innovative ecosystem or a comprehensive social system to create innovation. Through collaborations among government, academia and industry; collaborations among Japan, China and South Korea; and further cooperation with the Academies of Engineering in the ASEAN countries and Australia, we intend to focus on solving society’s technological issues.

III. Direction and Significance of Collaboration among the Three Countries’ Academies of Engineering

1. The EA Academies of Engineering, as members of International Council of Academies of Engineering and Technological Sciences, Inc. (CAETS), collaborate in a worldwide coalition of organizations from 26 countries, contribute to CAETS and support the Academies of Engineering that are budding in East Asian countries so that they can participate in CAETS.

IV. Collaborative Themes indicated in the Preliminary Draft for the postponed Fukuoka Symposium

1. Measures to address a huge disaster

The Great East Japan Earthquake, which had multiple seismic sources, produced an enormous tsunami and not only resulted in a huge loss of human life but also triggered a hitherto unpredicted level of disaster. It deprived the TEPCO Fukushima Dai-1 Nuclear Power Station of all its power sources, which led to the power station losing its cooling function, causing a nuclear reactor core meltdown and the explosion of emitted hydrogen. The radioactive substances dispersed by the explosion caused radioactive contamination over a wide area and related problems including the leakage of contaminated wastewater into the groundwater. Learning from this experience, it became necessary to reconsider and reformulate future policies regarding energy including nuclear and natural energy sources. Fundamental questions were asked about how to cope with natural disasters that cause enormous damage even though such occurrences are infrequent. Furthermore, it was clear that disaster prevention education and disaster training made a significant difference in how people reacted to the Great East Japan Earthquake. There are many lessons we can apply for the future.

2. Educational system for innovation

The original definition of *innovation* given by Joseph Alois Schumpeter in his *Theorie der wirtschaftlichen Entwicklung* (1912) was “creating the emergence of unpredicted properties by new combination of inherently unrelated concepts.” To achieve an educational system that can create innovation, our conventional educational system must be renovated. Education from early childhood needs to be reviewed as seen in K-12 STEM (Kindergarten through 12th grade Science, Technology, Engineering and Mathematics) education in the United States. University engineering departments need to be fundamentally reviewed. Furthermore, various new concepts in the “Transdisciplinary Bridging and Fusion of Various Fields” such as convergence, transdisciplinarity and co-creation are necessary. It is not enough to think of a future, potentially ideal, revolutionary technology. To nurture human resources who can create innovation, we must establish new educational methodologies immediately.

3. Initiatives toward new learning and educational methodologies

As part of efforts to innovate education itself, there is a growing global trend to apply perspectives in the rapidly developing area of Brain Science. In addition to addressing developmental disorders and other neurological disabilities, Brain science has created important new fields in lifelong learning and education. New perspectives are needed for engineering education too. Although China and Japan

have begun collaboration to lead the world in this field, we need to further reinforce international alliances. Furthermore, aggressive initiatives are needed to apply brain science to the field of engineering, as a methodology to understand the inherent nature of humans.

4. Urbanization, industrialization and solutions to environmental issues

In Japan, air pollution was a serious problem from the 1960s in places such as Yokkaichi, located in an industrial belt, and metropolitan areas for a long period of time. There was also a time when the water quality of rivers and lakes was deteriorating due to contamination. Today, however, Japanese trout (“*ayu*”), which live only in clear streams, are back in the Tama River in Tokyo. On many sunny winter days, you can see faraway Mt. Fuji from the center of metropolitan Tokyo. Behind such remarkable environmental improvements there is not only the implementation of regulations but also the nation’s diverse and committed efforts. We need to share this experience with other countries and pursue collaboration toward human security and well-being.

V. Conclusions

1. Engineering is increasingly important in societal innovation including such fields as next-generation energy supply, the global and local environment, logistics including transportation, healthcare, food production, new urbanization and aging.
2. To solve issues related to society, we need to recognize anew the importance of education, which is the key to achieving human security and well-being.
3. Each country needs to cooperate and collaborate to pursue new educational initiatives based on scientific perspectives and actual data, and convert such education into tangible forms with symbiosis via mutualism.
4. Each country should share its experience, as well as cooperate and collaborate to pursue and materialize new energy supply systems that are symbiotic with the global environment.
5. Each country should share its experience, as well as cooperate and collaborate to pursue and materialize societal innovations for mutual fertilization.

Attachment: The 16th East Asia Round Table Meeting of Academies of Engineering
Symposium on “Engineering towards Human Security and Well-Being” (P1-7)

The 16th East Asia Round Table Meeting of Academies of Engineering

**Symposium on
Engineering towards Human Security and Well-Being**

24 September, 2012

Hilton Fukuoka Sea Hawk, Fukuoka, Japan



Organized by:
The Chinese Academy of Engineering
The Engineering Academy of Japan
The National Academy of Engineering of Korea

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The 16th EA-RTM Symposium
“Engineering towards Human Security and Well-Being”
September 24, 2012 Hilton Fukuoka Sea Hawk, Fukuoka, Japan
Program

Opening Session

Chaired by Prof. Hano, Tadashi

- 09:00-09:05 Opening Remarks**
Prof. Kunitake, Toyoki
Advisor, The Engineering Academy of Japan (EAJ)
- 09:05-09:10 Greetings**
Dr. Xie, Kechang
Vice President, The Chinese Academy of Engineering (CAE)
- 09:10-09:15 Dr. Kum, Dongwha**
Executive Vice President, The National Academy of Engineering of Korea (NAEK)
- 09:15-09:30 Objectives of the Symposium**
Dr. Koizumi, Hideaki
Chair, the Committee on International Affairs, EAJ
- 09:30-10:10 Keynote Lecture “Science and Technology of Japan after 3.11 Fukushima in 2011”**
Dr. Kitazawa, Koichi
Counselor, Japan Science and Technology Agency
- 10:10-10:30 Break**

**Session 1: Paradigm Change caused by the Devastating Natural Disaster
— Engineers’ Mission and Ethics**

Chaired by Prof. Lee, Soo-Young and Dr. Kamimoto, Masayuki

- 10:30-11:00 “Science and Technology Policy for Innovation and Disaster Prevention”**
Prof. Ou, Jinping
President, Dalian University of Technology
- 11:00-11:30 “New Understanding of Natural Disaster and Functional Integrated
Management – Challenges and Opportunities in the DPSM”**
Prof. Cho, Woncheol
Yonsei University
- 11:30-12:00 “Industry-Academia-Government Collaboration for Disaster Prevention and
Environmental Safety”**
Prof. Uezu, Kazuya
The University of Kitakyushu
- 12:00-13:30 Lunch**

Session 2: New Engineering Education — Human Resource Development to Bridge and Facilitate Collaborations between the Different Fields

Chaired by Dr. Wei, Yu and Dr. Lee, Kunwoo

- 13:30-14:00** **“Initiatives for the Collaborations between Engineering, Medicine and Education”**
Dr. Cao, Xuetao
President, Chinese Academy of Medical Sciences
- 14:00-14:30** **“Feynman Quotes Revisited: Multi-disciplinary Convergence for Innovation”**
Prof. Chang, Suk-Gwon, Hanyang University
President, Digital Convergence Research
- 14:30-15:00** **“Global Human Resource Strategy to Survive as a Nation based on Science and Technology – From the Viewpoints of Engineering Sector – ”**
Prof. Kitamori, Takehiko
Vice President, The University of Tokyo
- 15:00-15:15** **Break**

Session 3: Bridges between Brain Science, Education and Engineering, and the Collaborations in Practice

Chaired by Dr. Nishijima, Akira and Dr. Cao, Xuetao

- 15:15-15:45** **“Promoting Neuroeducation as a Trans-disciplinary Field”**
Dr. Wei, Yu
CAE Member, Former Vice Minister of Education
- 15:45-16:15** **“Brain IT: Combining Brain Science, Medical Science, and Information Technology in Education and Research”**
Prof. Lee, Soo-Young
Brain Science Research Centre and Department of EE, KAIST
- 16:15-16:45** **“Toward Effective English Education Based on Brain Science”**
Prof. Hagiwara, Hiroko
Tokyo Metropolitan University

Closing Session

Chaired by Prof. Hano, Tadashi

- 16:50-17:20** **Closing Lecture “Lessons Learnt from Fukushima Nuclear Accident”**
Prof. Yamashita, Shunichi
Vice President, Fukushima Medical University
- 17:20-17:30** **Closing Remarks**
Dr. Koizumi, Hideaki
Chair, the Committee on International Affairs, EAJ

Welcome Address

It is a privilege and a pleasure for me to welcome all the distinguished guests, speakers and participants to the 16th EA-RTM Symposium on “Engineering towards Human Security and Well-Being” at Fukuoka, Kyushu in Japan.

On the outskirts of the city of Fukuoka, there is a historically important land of Dazaifu. It was established in the late 7th century to serve as the administrative center of the Kyushu Island for over 500 years. It was also a main point of interaction between Japan and Asia and played a pivotal role in diplomatic relations. Besides, the EAJ established its Kyushu chapter exactly one year ago and therefore we find a particular significance of hosting the EA-RTM here in Fukuoka.

In the meantime, Japan was hit by the devastating disaster of the Great East Japan Earthquake and Tsunami followed by the Fukushima nuclear accident about one and a half year ago. Thanks to the kind and warm support from all over the world, Japan is well on the way to recovery, but it is true that this gave an immense impact not only on Japan and its people but also on the world around. People much more focus on safety, security and quality of life. In this situation, “Engineering towards Human Security and Well-Being” would be a hot topic to be discussed in this symposium.

I believe that Japan, as a forerunner for addressing emerging problems in the world, could propose a new society to the global community by solving the problems we are facing. I named such a new society a “Platinum Society” and have been proactively working to establish it. The Platinum Society, a future-oriented sustainable society, is an eco-friendly, more energy-efficient and fulfilling long-lived society that would address global issues of energy, aging and knowledge structuring.

In the course of industrialization after the Meiji Restoration, Japan pursued in its bid to catch up with the world and the government built steel plants in Iwate and Fukuoka Prefectures. New innovations in the twenty-first century, including green innovation, silver innovation, and gold innovation, should clearly reflect regional characteristics. Each region should exploit its characteristics in promoting innovation, and the government should support it through systematic investments and relaxation of regulations noting that future industrialization will be different from conventional one. In the similar manner, Japan would be able to contribute to the world introducing its unique technologies to realize a new society like a Platinum Society and a key to the success is in structuring knowledge to enable other countries to utilize them in their places.

I assume that the activities towards a Platinum Society have much to do with the theme of this symposium. I look forward to the fruitful discussion with you at the symposium.

Lastly, on behalf of the Engineering Academy of Japan, I would like to acknowledge with deep appreciation the support given by the Fukuoka Prefecture, Fukuoka City, Fukuoka Institute of Technology, Fukuoka Women's University, The University of Kitakyushu, Kumamoto University, Kyushu Institute of Technology, Kyushu University, Nagasaki University, Oita University, Watanabe Memorial Foundation for the Advancement of Technology and Institute of Systems and Information Technologies and Nanotechnologies.

A handwritten signature in black ink, consisting of stylized Japanese characters, likely reading 'Komiyama Hiroshi'.

Hiroshi Komiyama
President
The Engineering Academy of Japan

Objectives of the Symposium

The main theme of the 16th EA-RTM Symposium is “Engineering towards Human Security and Well-Being”. We are reconsidering the meaning and objectives of engineering in tackling the reconstruction of human societies in Japan after the Great East Japan Earthquake on March 11, 2011.

The concept of human security was advocated by Emma Rothschild of the University of Cambridge and others in the early 1990s, and has been disseminated widely by the activities of the United Nations led by Amartya Sen and Sadako Ogata. During the significant change in international relations between the East and the West, the concept of common security led to the birth of a new concept of security of the human being, e.g., human health & environmental issues.

Although it is true that the need for security from diseases and global environmental changes is a priority for people to survive, we must also address such negative phenomena as the high suicide rate in developed nations even though physical security is sufficiently high in terms of conditions for survival. For people to be fulfilled in their lives, the quality of life (QOL), which includes mental security or feeling happiness and satisfaction, is critical. The combination of human security and well-being, therefore, is a highly positive new concept.

From an etymological view point, the word stem of engineering is the Proto-Indo-European root *genə*, which means to produce, same as in ‘generate’ and ‘genesis’. Therefore, engineering originally means to create an objective system formed by hardware and/or software. It is closely related to the concept of innovation. Engineering in pursuit of human security and well-being is the main objective of this symposium, in the hope that it will lead to the basis of engineering for next generation education, future city designs, as well as aging and environmental issues, etc.

The symposium comprises of a keynote lecture followed by three sessions and a closing lecture. Japan, the host of the 16th EA-RTM was hit by an unprecedented disaster in the Great East Japan Earthquake. In Japan’s struggle to recover from the aftermath, the importance of engineering has become increasingly more evident. In the keynote lecture, reflecting on past and current problems, we will discuss ethics, education and future issues, and would like to share this knowledge. Each of the three sessions following, consists of three presentations by invited speakers from China, Korea and Japan.

- Session 1 focuses on a new paradigm change resulting from the devastating disaster and discusses the mission of engineers and ethics for the future.
- Session 2 discusses new engineering education which will bridge and facilitate collaboration between different fields including how to nurture creative trans-disciplinarians in engineering, in other words, innovation planners for integration
- Session 3 highlights the bridges between brain science, education and engineering and the collaborations in practice. One of the most important factors in innovation is passion, or

emotion. The frontier of neuroscience is revealing the mechanisms of emotion in the brain. It is also clarifying learning mechanisms, and the will to learn, which might give us hints towards creative functions in the brain.

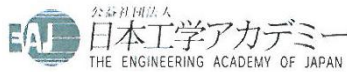
To engineer must be the major part in innovation. In the closing lecture, we would like to share the lessons learnt from the Fukushima nuclear accident and on-going challenges from the perspective of health risk management.

I hope that the symposium will help us achieve a common vision towards engineering a safe and fulfilling life in the future. The outcomes of the symposium will be compiled as a statement to be publicized on the Internet.

I look forward to the active discussion with you at the symposium.

A handwritten signature in black ink, appearing to read 'H. Koizumi', with a long horizontal stroke extending to the right.

Hideaki Koizumi
Director, Chair of the Committee on International Affairs,
The Engineering Academy of Japan



CAE/EAJ/NAEK's Proposition to their Governments

Chinese Academy of Engineering (CAE), Engineering Academy of Japan (EAJ), and National Academy of Engineering of Korea (NAEK) jointly conducted a survey on the cooperation among China, Japan, and Korea in green technology in 2013.

The survey shows that a strong interest and support of each government is required to facilitate the trilateral cooperation. It also reveals that expectations on the benefit of the cooperation as well as needs for the cooperation are very high in all three countries, while the current quantitative and qualitative level and future prospect of the cooperation are not so high as expected. We urgently need the government level support and mechanisms or platforms of cooperation.

Based on the results of the survey, CAE, EAJ, and NAEK jointly propose to the three governments to take immediate actions to facilitate and expand the trilateral technology cooperation among three countries in energy and environmental technology. The three academies also present recommendations as follows.

1. The governments need to draft and execute policies to foster the trilateral technology cooperation in energy and environmental technology, including expansion of mechanisms or platforms of the cooperation among the three countries.
2. The governments need to expand initiatives for the joint research and development and the exchange of human resources which are considered as the most effective and urgent for the cooperation.
3. As top priority areas of the cooperation, the governments need to initially concentrate their efforts on 'new and renewable energy' and 'energy efficiency' in the energy technology, and 'air quality' in the environmental technology.
4. Besides the technology cooperation, the governments need to establish an initiative for the risk communication on nuclear power generation to minimize potential risks which have escalated public concerns since the Fukushima incident.

Ji ZHOU
CAE President

Date: March 26, 2014

Hiroshi KOMIYAMA
EAJ President

Date: March 26, 2014

Joon Yang CHUNG
NAEK President

Date: March 26, 2014