President's Address at the 2018 Saitama University Commencement

Dear the international graduates, this summer that had record high temperatures is over and the time is steadily progressing to autumn. And Saitama University campus will also move on to the usual colorful attire. On this pleasant day with full of hope, I would like to express my warm congratulations on your graduation, and to deeply thank the people who have supported you.

The numbers of graduates who got doctor's and master's degrees today are 27 and 24 respectively, and 36 of them are from 14 countries, namely America, Bangladesh, China, France, Guinea-Bissau, Korea, Malaysia, Myanmar, Pakistan, Philippine, Sri Lanka, Thailand, Uganda, and Vietnam. In addition, the graduate ratio of humanities vs. science fields is about 1:1. It is a distinctive commencement that is full of diversity only in *Saitama University All in One Campus at Metropolitan Area Saitama*.

In this summer, very many natural disasters occurred in Japan. Two big earthquakes with the magnitudes exceeding 6 continued to occur in Osaka and Hokkaido, causing great damages. Being as shocking as these quakes was natural disasters due to the heavy rain, typhoon, and flooding. In the *Western Japan Torrential Rain*, the damage was extremely large compared to the past heavy rain disaster, such as the updated maximum rainfall in observation history and the 221 victims. In September, the Typhoon No. 21 landed in Japan with a "very strong" force for the first time in 25 years, causing major damages in the Kinki region and significant influences on air transport at the Kansai International Airport where the runway was flooded.

The large-scale disasters due to heavy rain and catastrophic flooding continuously occurred even in various countries around the world, such as Spain, India, and China. Especially in Guangdong, China, the massive flood took place due to the intensive rainfall from the end of August and 1.4 million people were affected. As understood from the above described examples, the flooding may now be a symbolic phenomenon, revealing the change of the earth. And, now that floods are overwhelmingly increasing, the problem that the deterioration of sanitation caused by flooding leads to victims by infectious diseases is a daily occurrence in many countries and regions.

In order to tackle socially important issues, the Japanese government has founded *Strategic Innovation Promotion Project (SIP)* as a national project, and proposed a super smart society; *Society 5.0*, that brings richness to people by using ICT. As for natural disasters in particular, *Strengthening Resilient Functions of Disaster Prevention and Reduction* has been set as a subject of *SIP*. This is aimed to realize the early detection of disaster, advance preparation for disaster, and prompt response at the time of disaster, with due attention to the intensification of natural disaster as well as the weakening and resilience of society. A platform will be built to provide disaster information and service to local governments, companies and residents by utilizing big data analysis and AI for disaster prediction and response. In addition, we will promote cooperation with issues such as infrastructure maintenance and advanced transportation systems, and contribute to the creation of safe, secure and comfortable *Society 5.0* and, as a result, the *Sustainable Development Goals (SDGs)*.

The *SDGs* was adopted by the United Nations in 2015 as a universal challenge for global issues to realize a sustainable world without poverty, inequality, disparity, and climate change. And the communiqué of 2017 G7-Science and Technology Ministerial Meeting clearly states that *Science, Technology, and Innovation (STI)* is a cross-sectional element indispensable for solving various problems related to *SDGs*, and that interdisciplinary efforts toward productivity revolution is recommended.

Regarding this interdisciplinarity, Emeritus Prof. K. Hanaki, Univ. of Tokyo, points out as follows. "The science has a great role to play in the society. ... Sciences developed rapidly in the 20th century have progressed in the direction of specialization, but on the other hand, the society becomes increasingly complex, and the cooperative relationship of scientists is increasingly important in order to respond to the request of solving social problems including the future Earth. The society's expectation toward the sciences becomes interdisciplinary by crossing academic fields, and transdisciplinary based on mutual collaboration with the society." And, as Prof. M. Kano, Okayama Univ., also mentions, "cross-border" from existing classification of organization is inevitable, if we try to respond to *SDGs*-like subjects. As symbolized by the historical merger between *International Council for Science* and *International Social Science Council*, which is scheduled for October 2018, the trend of change from "science for knowledge" to "science for future/for society" that is collaborated with policies, companies, and civil society, is occurring in the world scientific community.

However, as Dr. N. Miyano, Kyoto Univ., states, the contribution of academia to the society is only a small incidental result in the academic big goal of exploring truth or completing human spirit. He regrets that academics have neglected to think only by learning facts since they began to look at the effectiveness of facts.

This issue reminds me "liberal arts of scientists", which is discussed by a philosopher, Prof. K. Washida and an anthropologist, Prof. J. Yamagiwa. "People, who can gather materials to think, make their own hypotheses and verify them, are necessary for science. The doctor holder is originally a person who has received such training and can be a future professional by applying his skills to non-professional themes." And, "Now scientist is not a wise man with intellect, but a person just with knowledge. He needs the intellect paying attention not only vertically but also horizontally. Isn't it the liberal arts of professionals to be able to pay attention to all these directions?"

Each of you might have now a feeling of satisfaction, which must be due to your own steady effort on the study at Saitama University. I would like to express much respect on it. With that in mind, I have just introduced several issues on *STI* for *SDGs*, interdisciplinarity, and liberal arts of professionals. I do expect each of you to occasionally review the meaning of your study from these different perspectives, and significantly contribute to the knowledge society as an intellectual professional in your future. Today's degree is one major milestone, but the study will last forever.

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