President's Address at the 2016 Saitama University Entrance Ceremony

Congratulations on your admission to Saitama University.

Out of 597 new graduate students in total, the 85 of them are from 15 overseas countries. I would like to express a cordial welcome to you on behalf of all the SU members. While it might be possible for some of you to come across unexpected difficulties caused by, for example, cultural differences, we are willing to help you to overcome them.

In the SU campus, the cherry trees are beautifully in bloom among the dark green of evergreens, and the trees such as Japanese Zelkova is sprouting out with the soft light green, as if they also congratulate you. About 40 years ago, the fifth SU President Shunzo Okamoto made a decision to plant many, various trees in this campus where there was nothing at the time. The trees have grown up resulted in the present, my favorite beautiful SU campus. This fact teaches us the importance of time axis as the passage of time and also great importance of time axis origin corresponding to the first action. I hope all of you to make progresses smoothly along your time axis with its new origin, that is, today.

Back in 1975, I graduated from SU and admitted to the Graduate School at the University of Tokyo. It is noted that the decision of my continuing study for master and doctoral degrees was very much affected by my respected professors in both universities, who have aroused my academic curiosity on structural dynamics.

Dr. Takaaki Kajita, the winner of the Nobel Prize in Physics in 2015, also mentions the importance of encounter with respected professors. He graduated from SU in 1981 and continued his study of cosmic rays at the University of Tokyo, as most of you know. Because of this, I had several chances to talk with and listen to him. Dr. Kajita says, "Probably it is at the time of graduate student that I wanted to be a physical researcher. I had the privilege of encountering with respected professors, good friends, challenging research projects, and, as a result, I was able to discover the small mass of neutrino". And he continues, "No body knows when he has an important encounter that really decides his life. You should open your eyes and heart widely to prepare for the time when you came across important person and/or thing".

Encountering with the observation data of neutrino, which was the big turning point of his researcher life as Dr. Kajita mentioned, is also included in the word "important encounter" in his talk. He says, "I noticed the gap with the calculated values in the observation data of neutrino detected at Super-Kamiokande. I felt it very momentously, and devoted myself to elucidating the unexplained event, which led to the discovery of the neutrino mass".

About this "important encounter", Dr. Hideki Shirakawa, who won the Nobel Prize in Chemistry in 2000 by his achievement of discovery and development of electro-conductive plastic, touched its consequence in the honor lecture at SU in 2001. He made the new discovery from the accidental incidence caused by his failure by using a catalyst 1000

times denser than usual in the experiment. Dr. Shirakawa said that the Nobel Prize was a result of *serendipity*, which is the ability to discover unexpected good things. He also said that the one, who looks at things with wide-open eyes and heart, could have *serendipity*, by referring to the words of Louis Pasteur, "Chance favors the prepared mind". This idea of Dr. Shirakawa is very similar to previously introduced Dr. Kajita's suggestion, "You should open your eyes and heart widely to prepare for the time when you came across important person and/or thing".

Various intellectuals point out this importance of looking and thinking. Goethe leaves the maxim, "Knowing is not enough; we must apply. Willing is not enough; we must do." which is followed by another maxim, "Thinking is more interesting than knowing, but less interesting than looking." He emphasizes the importance of looking, but at the same time, Goethe also says, "We only see what we know." pointing out the difficulty of looking. On this importance and difficulty of looking, Japanese anatomist, Dr. Takeshi Yorou mentions in his book "Bunkei no Kabe". He points out that a scientist tends not to look at what can be seen, but what he wants to see through his own filter, at a research stage of sensuously grasping an event before making it consciousness. Dr. Yorou then argues generally the importance of looking at things well in the field by opening one's sense before one is deadlocked by thinking with one's head.

Dr. Yorou points out also the importance of failure in his other book "Jibun no Kabe" by emphasizing that one can get his or her self-confidence through repeating a cycle of challenges and failure. In addition, in his longtime seller book "Learning from Failure", Dr. Yotaro Hatamura mentions that the one learns from a failure and deepens a thought more. He says as follows. "Most of people might think that learning from a success is a smart way, but why do they not get along well? The reason is fairly simple. Many of them come not to look at and to think about a different method before very long, while a useful way could be changed to a useless way before they knew it". And he continues, "A person with some sense of purpose, who feels something in a real experience and is proactive in thinking with one's head, can acquire the true intellect that can cope with any situation flexibly. In fact, this is the way of thinking in Learning from Failure". Again, looking and thinking are important.

According to Dr. Kajita's message, the university is an entrance to the scholarly activity, and the graduate school is a place of scholarly activity on the basis of research, which is a repetition of a challenge and failure. I expect you not to miss a chance of important encounter and *serendipity* by looking at and thinking about things well. And, I do hope all of you to enjoy your researches and graduate student lives at Saitama University.

April 6, 2016

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