

April 4, 2018

President's Address
Entrance Ceremony, April 2018

Yuji Oie, President of Kyushu Institute of Technology

Congratulations on your entrance to our university.

On the occasion of today's entrance ceremony, I would like to offer my heartfelt congratulations to all of you on this auspicious day, and also express my great respect for all of the efforts you made to arrive at this point. It is the ultimate pleasure for us to welcome you to the Kyushu Institute of Technology. To all the family members in attendance, I can only imagine the great joy you must feel. On behalf of all the faculty members, I would like to deliver this celebratory address.

As you begin your academic life at Kyutech, I would have you know that the school was originally founded in 1909 as a private institution called the Meiji College of Technology. The founder, Mr. Keiichiro Yasukawa, was a prominent figure in the business community of Kitakyushu and the Chikuho region, and he established various businesses, such as YASKAWA Electric Corporation, that served as the foundation of our nation's industrial growth.

In the Meiji Period, Japan lagged far behind the great nations of the world industrially and economically, so it was vital to develop human resources to support the country. Based on his belief that "profits earned thanks to the country should be used for the country," Mr. Yasukawa donated a large part of his private fortune to found the Meiji College of Technology, with the aim of training engineers who could support the industrial advancement of Japan.

He entrusted education and research at the Meiji College of Technology to Dr. Kenjiro Yamakawa, then president of Tokyo Imperial University. At the opening ceremony of the college, Dr. Yamakawa declared that the Meiji College of Technology was a school that produced "gentlemen well-versed in technological skills," aiming to develop human resources with dignity and creativity. Dr. Yamakawa's aims have been adhered to through the generations, and still guide us today after more than 100 years as our university's founding principle of "instilling a deep knowledge of science and engineering in high caliber students." I would like the new students here to learn by heart the phrase "high caliber students with a deep knowledge of science and engineering."

The Meiji College of Technology became the National University Kyushu Institute of Technology in 1949, and then it was transformed into the National University Corporation Kyushu Institute of Technology in 2004. During this time, Kyutech established the Faculty of Computer Science and Systems Engineering in Iizuka City and the Graduate School of Life Science and Systems Engineering at the Kitakyushu Science and Research Park in the Wakamatsu area of Kitakyushu City; and it has

become one of a select number of distinctive engineering universities in Japan, with two undergraduate schools and three graduate schools that serve approximately 5700 students.

Now I would like to take this opportunity to talk to you about two important things to remember as you continue in your studies at Kyutech after you enroll. They relate to imagination and empathy.

Today it is said that AI (artificial intelligence) will be applied in various fields and significantly impact both how we work and our activities in society. The prototype for today's computers that run AI was the early electronic general-purpose computer ENIAC that was developed at the University of Pennsylvania in the 1940s, some seventy years ago. The basic design of the computer was strongly influenced by Alan Turing of England. In 2014, Turing's biography was adapted into a movie titled *Imitation Game*, which perhaps some of you have seen. Today's computers owe much to his incredible achievements as a computer scientist. In the 1950s, when computers were still early in their history, Turing had already reflected on artificial intelligence and had the following to say in an essay he wrote, titled "Computing Machinery and Intelligence."

(Alan Turing, "Computing Machinery and Intelligence," *Mind* LIX, no. 236 (October 1, 1950): 433–460, <https://doi.org/10.1093/mind/LIX.236.433>)

I propose to consider the question, 'Can machines think?' This should begin with definitions of the meaning of the terms 'machine' and 'think'....

We may hope that machines will eventually compete with men in all purely intellectual fields. But which are the best ones to start with? Even this is a difficult decision. Many people think that a very abstract activity, like the playing of chess, would be best.

What awesome imagination. Today we hear about the world's best go and shogi players being defeated by AI, but how incredible it is to realize that more than 60 years ago, when computers were still in their infancy, there was someone who had already imagined their future. Imagination emerges from a strong interest or intellectual curiosity in the thing or phenomenon toward which it is directed. Imagination deepens our understanding and can even impart a sense of responsibility. Imagination requires substantial knowledge and wisdom. It is extremely important to gain lots of knowledge and learn ways of thinking from books, experience, and other people.

The second important thing relates to empathy. In his book *A World History* (Oxford University Press), McNeill writes that human history begins from the moment evolution is shaped by culture. Because we "came to be governed far more by what men learned in society," our evolution has been cultural. It is within and through society that we have learned and grown. One other thing I would like to mention relates to the functioning of our brains. Our brains supposedly possess a type of cell called a "mirror neuron," which is deeply involved in our understanding of the meaning and intention behind people's behaviors by simulating those behaviors in our brains. In his book *Mirroring People: The New*

Science of How We Connect with Others, Marco Iacoboni writes, "When we see someone else suffering or in pain, mirror neurons help us to read his or her facial expression and actually make us feel the suffering or the pain of the other person." He also writes, "Empathy plays a fundamental role in our social lives. It allows us to share emotions, experiences, needs, and goals." Empathy is an important factor in our ability to learn and grow within and through society. No doubt that is why our very brains help us to do this. The technologies that you study here will be used within society and spread. I want you to understand that you will need people to understand those technologies and be capable of accepting them based on empathy.

In addition to your formal studies in the classroom, Kyutech offers various other opportunities for learning. To provide opportunities to feel, think, and learn in an entirely different environment, we actively promote overseas study. Last year nearly 600 of your fellow students participated in such programs. We want each of you to acquire the ability to apply your expert knowledge and skills in a globalized society by being able to accept other cultures, entertain alternative views, and communicate your own opinions. Another example of an extracurricular learning opportunity is our student projects, which enable you to form teams and propose a plan for making something. If your proposal passes the review, you receive funding from the university and other organizations, such as our alumni association, Meisenkai. Among other things, students are currently engaged in making robots, cars, and rockets. The projects organically integrate a wide range of knowledge and develop problem-solving skills. I truly hope you will take advantage of these learning opportunities.

In closing, let me return to the essay by Turing that I earlier introduced. In it, he writes "We can only see a short distance ahead, but we can see plenty there that needs to be done." To you, our new students, I say be mindful of your health, but take advantage of our many learning opportunities and environments to explore a wide range of things. Our university is a place that brings people with a love of knowledge together, and I hope it will be a place for you to pursue a meaningful undergraduate or graduate student life. Once again, welcome and congratulations.