President’s Address for Entrance Ceremony

It is my great pleasure to welcome two new students to the Master’s Program of the Graduate School of Human and Social Sciences, nine students to the Master's Program, and three students to the Doctoral Program of the Graduate School of Natural Science and Technology, Shimane University. Congratulations to all those who have enrolled and everyone involved. On behalf of all Shimane University professors and staff as well as the current students, I would like to extend my sincere congratulations to you.

Among the 14 students who have enrolled this term, one is a Japanese national and thirteen are international students. To our international students, we extend our sincere gratitude for choosing Japan—and, among the many institutions available—for selecting Shimane University as your destination for higher education. We are committed to providing unwavering support to ensure that each of you can pursue your studies and research in a manner that leads to the realization of your future aspirations. On behalf of the entire faculty and staff, we pledge to stand beside you as you embark on this important academic journey.

Shimane University is a national comprehensive university with a well-balanced arrangement of seven faculties and four graduate schools in the natural sciences, including medicine, and humanities and social sciences on the Matsue and Izumo campuses. World-leading research activities that take advantage of the unique strengths of the region and detailed individualized education are being carried out at Shimane University, including the graduate school and laboratory to which you belong. Since you have enrolled in graduate school, I hope that, based on the knowledge you acquired in your Bachelor’s program, you will acquire even more advanced specialized knowledge and abilities. I further hope that you will value the questions that interest each of you, deepen your research through the guidance of your supervising professors and active discussions with everyone in the laboratory, overcome difficulties, and create a master’s or doctoral thesis as an achievement that leads to your ultimate goal.

On the other hand, I strongly recommend you to take advantage of the strengths of Shimane University as a comprehensive university, which I mentioned earlier, and strive to gain a broader perspective during your studies, going beyond your specialized field and even beyond the boundaries between the natural sciences and humanities and social sciences. Why would I encourage you to make such a seemingly extra effort?

First, new developments, value, and innovation are created by linking the highly specialized knowledge and skills acquired through one's own intellectual curiosity and spirit of inquiry with the knowledge and skills of other specialized fields. As one example,

let me share a story that became a driving force behind Dr. Shinya Yamanaka's creation of iPS cells, for which he was later awarded the Nobel Prize in Physiology or Medicine. While in the United States, Dr. Yamanaka conducted research on embryonic stem cells derived from mouse fertilized eggs. However, after returning to Japan and joining a pharmacology department, he struggled with tasks such as managing laboratory mice. Discouraged, he was on the verge of deciding to return to clinical practice. As a way to leave research behind, he applied, thinking he had no chance, to Nara Institute of Science and Technology, but was unexpectedly accepted. After assuming his position, he set forth the ambitious dream of creating pluripotent stem cells from somatic cells without using fertilized eggs just to inspire students, although he believed that achieving it would be extremely difficult in reality. However, when he spoke about this idea at an interdisciplinary seminar within the university, a professor of botany approached him immediately afterward and said, "Yamanaka-kun, you're making it sound difficult, but plant bodies are full of pluripotent cells." He explained that when you take cuttings for plant propagation, roots grow from them and they start to grow because pluripotent cells are being induced. This insight overturned Dr. Yamanaka's perception—he thought, "This is possible"—and it led to his vigorous pursuit of the research thereafter. As this example shows, crossing disciplinary boundaries—whether near or far—can lead to countless new developments. In my own case, my research in human and mouse developmental biology was expanded through collaboration with mathematics professors at our university, applying mathematical approaches to the field. This work was recognized, and I was able to join the New Academic Research Area project funded by the Grants-in-Aid for Scientific Research, titled "Epithelial tubular histogenesis: Tubulology."

In another sense, highly specialized professionals are required to possess a broad and overarching perspective. Today's world is often described as being in the era of "VUCA"—an acronym that stands for Volatility, Uncertainty, Complexity, and Ambiguity. This term reflects the unpredictable nature of our times, shaped by global challenges such as the spread of COVID-19, the increasing frequency of natural disasters, the rapid advancement of technologies like artificial intelligence, and geopolitical tensions in regions such as Ukraine and Gaza. From a geological standpoint, the present era is also referred to as the "Anthropocene." This term signifies the profound impact of human activities—such as economic development and nuclear testing—on the Earth, comparable to events like asteroid collisions in terms of their lasting effects on the planet's history. In response to these global challenges, international efforts are underway to find solutions. These include the Sustainable Development Goals (SDGs) set for achievement by 2030, and subsequent initiatives such as carbon neutrality. Shimane University is actively engaged in these efforts, guided by its SDGs Action Principles. We are advancing initiatives in education, research, and regional contribution. Beginning this academic year, the university has introduced the designation "SDGs Unit" for officially recognized activities, which are also featured on our university website.

SDGs consist of 17 interconnected goals. However, there are cases where efforts to achieve one goal may inadvertently hinder progress toward another. For example, the development of renewable energy—such as the construction of large-scale solar farms—can lead to deforestation and environmental degradation. Therefore, initiatives that value overall balance in addressing many local and global issues are necessary to achieve well-being in a sustainable society and the global environment, with no one left behind. In order to lead such a future, you need to position the advanced specialized knowledge you acquire from a panoramic perspective that transcends disciplines, and to develop it in relation to the real world.

Furthermore, among technologies, generative AI is very useful for efficiently summarizing and organizing information, but since it simply connects words that are likely to come next from a vast amount of linguistic information, it cannot be used to determine logical correctness. You are still at the stage of acquiring the ability to judge whether something is correct or not, and even teachers, like students, will not be able to judge whether the content provided by generative AI in areas outside their expertise is correct without checking the original information. As such, how we deal with generative AI, which is undergoing rapid innovation, is extremely important and requires careful consideration as we advance in our studies and research.

In Shimane, Japanese traditions such as ancient Izumo, Matsue Castle, tea ceremony, Japanese sweets, and other cultural practices are still alive today. This region is blessed with abundant natural beauty, including Lake Shinji—renowned as one of Japan’s top 100 sunset spots—as well as fresh and delicious cuisine. The NHK morning drama series "Bake-bake," which began airing just this fall, is based on Lafcadio Hearn, Koizumi Yakumo, and his wife, Setsu, who were fascinated by the good old Japan that remains in Shimane and introduced it to the world.

The opportunity to study at Shimane University in such a culturally rich and healthful environment, with a comprehensive perspective on cutting-edge science, is a major benefit of studying at this university, even within Japan. While taking full advantage of these benefits, I hope that you will look to the future and study carefully with a broad perspective that extends from the local to the global. I also hope that you will lead a fulfilling student life, including through interactions with friends, faculty, and staff. This concludes my address for the entrance ceremony.

October 7, 2025
OTANI Hiroki
President of Shimane University