



Professor (Special Recognition)
Graduate School of Humanities and Social Sciences
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Research interests

Ethics, applied ethics (bioethics)

At present, research and development are advancing at a dramatic pace in the fields of science, medicine, and engineering. The outcomes of these efforts are expected to benefit society in various ways. On the other hand, deep-rooted concerns and anxieties have arisen about the potential misuse of research results. The common issues across all the fields are how to promote research and development and how to return the outcomes to society. I address these issues through my expertise in ethics.

In September 2012, when I was a graduate student at Kyoto University, I went to study applied ethics at Oxford University in the United Kingdom. Shortly thereafter, I received the exciting news that Dr. Shinya Yamanaka of Kyoto University had won the Nobel Prize in Physiology or Medicine. He was recognized

with the prize for his discovery that mature cells, such as skin cells, can be reprogrammed to become cells that can make all types of cells in the body (formally known as “induced pluripotent stem cells” or “iPS cells”) simply by inserting a few specific genes into the cells. At a similar time, another group announced that they had successfully created eggs from mouse iPS cells and produced offspring from these eggs. Based on these results, Dr. Yamanaka also recognized that iPS cell research could raise ethical issues, depending on how it was used. In this situation, I began researching the ethical issues concerning iPS cell research, partly due to the recommendation of my mentor in the UK at that time. After returning to Japan, I took up a position as an ethics expert at the Center for iPS Cell Research and Application, Kyoto University, the active hub for research and application of iPS cells. Until 2022, when I moved to Hiroshima University, I was engaged in the ethical issues raised by cutting-edge life science research, such as iPS cells, at Kyoto University.

The field I work in is also known as “Ethical, Legal, and Social Issues (ELSI)” or “Responsible Research and Innovation (RRI).” ELSI addresses issues that may arise during the conducting of research or the utilization of its results. RRI, on the other hand, is a process of promoting research and development by working backwards from a vision of the kind of future we want to live in and the values we wish to uphold in that society. RRI includes elements of ELSI. In recent years, all countries, including Japan, have recognized the importance of ELSI



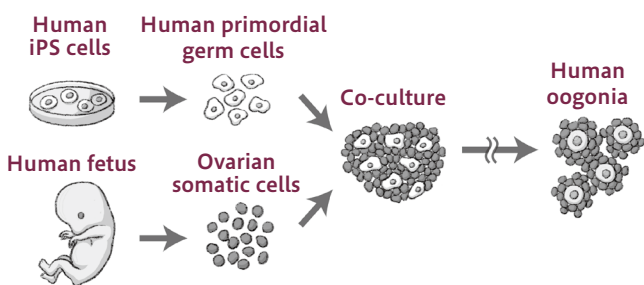
Engaging in dialogue with a diverse group of citizens at “Research Chit-Chat #8 (Special Edition): Creating and Thinking about the Brain—The Future of Brain Organoid Research.”



Engaging in dialogue with participants at “Creating the Brain!? Cutting-Edge Neuroscience,” a discussion event for high school students held on September 23, 2023.

and RRI and have focused their efforts on such research. In addition to ELSI research, which involves thoroughly identifying and discussing issues caused by specific technologies, I also aim to “co-create the future (create a better society)” with diverse stakeholders (citizens) based on the RRI approach.

In the field of ELSI/RRI, we need the ability to understand the state-of-the-art research being developed by scientists, medical doctors, and engineers, the ability to work internationally and interdisciplinarily with such a diversity of researchers across arts and sciences and boundaries, and the ability to connect researchers with society. It is not easy to co-create the future in a way involving a diverse range of citizens. In fact, despite various initiatives undertaken worldwide, there are still no clear cases of success. At Hiroshima University, I engage in research and practice daily while establishing one of the top research environments in Japan in the field of ELSI/RRI. Through these efforts, I hope to contribute to creating a better society, one where people feel, “This is the kind of society I want to live in.”



In May 2024, a research group at Kyoto University announced that they had developed a method for mass-producing the precursors of eggs, called oögonia, from human iPS cells. The initial method (see figure above) had the limitation of producing only a small number of oögonia, as I discussed it in my book *How Far Can We Manipulate Life? Applied Ethics Lecture*, published in 2021. They have now overcome this challenge. As you can see, life science technology continues to evolve daily. In these circumstances, bioethics is increasingly required to play a greater role in connecting academia and society.



Distinctive research facilities

Attached Research Institute

Research Institute for Radiation Biology and Medicine

The Institute conducts comprehensive research projects on the effects of radiation on the human body, ranging from cutting-edge basic research in genomics to advanced clinical deployment of regenerative medicine, etc. While being involved in research and development of medical treatments for A-bomb survivors for over half a century, the Institute is actively engaged, as a research hub in the field of radiation disaster medical science, in joint research projects with researchers and doctors across the country.



Joint Education and Research Facilities on Campus

- Research Institute for Semiconductor Engineering
- Research Institute for Higher Education
- Information Media Center
- Natural Science Center for Basic Research and Development
- Morito Institute of Global Higher Education
- Health Service Center
- The Center for Peace
- Environmental Research and Management Center
- Hiroshima University Museum
- Hiroshima Astrophysical Science Center
- Institute for Foreign Language Research and Education
- Hiroshima University Archives
- Institute of Sport
- HiSIM* Research Center
- Amphibian Research Center
- Translational Research Center
- Resilience Research Center