

## Impact Objectives

- Explore decision-making issues regarding the social implementation of technologies that intervene in 'life' and the 'environment'
- Comprehensive research on methods, ethics and policies to help promote integrated research in the humanities and social sciences

# Caution before implementation

*Professor Tsuyoshi Matsuda is collaborating with Professor Naoto Chantani, Associate Professor Mao Naka and Associate Professor Takuya Niikawa to undertake extensive research regarding philosophy and applied ethics. He talks about a new English book he co-edited which delves into this complex subject*



Professor Tsuyoshi Matsuda



Professor Naoto Chantani



Associate Professor Mao Naka



Associate Professor Takuya Niikawa

### What inspired you to become involved in this field?

I have been teaching and researching environmental ethics for nearly 30 years. Over that time, I have come to realise the importance of collaboration between international scholars and citizens to address issues such as wetland conservation, asbestos hazards and energy ethics, especially following the Fukushima nuclear accident.

### You are based at the Organisation for Advanced and Integrated Research, Kobe University. What type of work is underway here?

The Meta-Science and Technology project is one of the main investigations within the Organisation which is part of the field of Humanities and Social Science at Kobe University in Japan. It was launched and started by volunteer faculty members of the Graduate School of Humanities, Graduate School of Law, Graduate School of Economics, Graduate School of Human Development and Environmental Studies,

and the Graduate School of International Cultural Studies. Its focus is 'life' and 'environment'. While individuals are conducting the research, researchers from inside and outside of the country are also hired and invited to have joint discussions at the Meta-Science and Technology Workshop.

We are also engaged with investigating participation in environmental technologies and promoting responsible scientific research and innovation. We plan to present the results of our research in education and disseminate these in Japanese as well.

### Collaboration is an important part of your work. Can you talk a little about some of the collaborators you work closely with?

I am working closely with a number of researchers from the Graduate School of Humanities, Department of Human Cultural Studies at Kobe University. Professor Naoto Chantani is focusing on the principle of autonomy regarding modern medicine, including euthanasia, Associate Professor Mao Naka is conducting theoretical and practical research on reproduction

centered on gender and body and Associate Professor Takuya Niikawa is undertaking a philosophical study of consciousness, as well as conducting research on experimental phenomenology and psychology in collaboration with scientists and investigating ethical issues surrounding brain organoid. These are three of my colleagues from the Graduate School of Humanities who have been part of the project innovative ethics since 2007.

### You have a new book being published by Springer later this year. What value will readers gain from the information in this book?

The book discusses decision-making issues regarding the social implementation of technologies that intervene in 'life' and the 'environment'. It begins with a fundamental consideration of the ethics and philosophy of science and public policy, as well as providing concrete examples of reproductive medicine, environmental technologies and urgent issues. The latest results from our research have been integrated and presented, including the introduction and elucidation of problems such as genome editing, climate variability, geoengineering and a historical and reflective inquiry based on science and technology within society. Ultimately, I think it will be a reference for promoters of similar integrated research, research in related fields and young researchers looking for inspiration. ►

# Considering the ethical implications of innovations

A team based within the *Organisation for Advanced and Integrated Research at Kobe University in Japan* is involved in comprehensive research on methods, ethics and policies

Professor Tsuyoshi Matsuda, who is the Vice Dean of the Organization for Advance and Integrated Research and a Professor at the Graduate School of Humanities, Kobe University, has an extensive career studying philosophy and environmental ethics. Matsuda has established the Meta Science and Technology Research Project (MST) to look at many of the risks associated with new technologies. In his role at Kobe University he is leading a team that is dedicated to conducting comprehensive research on methods, ethics and policy, with a view to inspiring the next generation of scientists to find the correct answers to some of the world's biggest problems.

## THE PRECAUTIONARY ATTITUDE

Matsuda has almost 30 years' experience in the field of environmental ethics and his research often adopts a philosophical approach. He takes an epistemological position, which asks questions regarding knowledge and what it is we can (and cannot) know. 'Over the years I have performed research on environmental risk theory as well as the risks and regulations of new technologies,' explains Matsuda. 'The findings have been, and will be, variously published and are concerned with risk and how it is related to the precautionary attitude.'

The precautionary attitude Matsuda refers to is one regarding the idea that innovations have the potential to cause harm when not enough scientific knowledge has been gathered. 'Importantly, it holds that it is better to adopt a cautious approach,

as opposed to simply going ahead and implementing policies that could end up being disastrous,' observes Matsuda. 'I am hopeful that by keeping the precautionary attitude in mind, it will help better elucidate public health ethics and eventually contribute to an institutionalisation of social decision-making regarding science and technology.'

## ADVANCED FUSION RESEARCH

MST fuses research in the humanities and social sciences and consists of three key divisions: Science Methodology; Science and Technology Ethics; and Science and Technology Political Economy. 'This study emphasises the methods of inquiry and normals of value, as well as the political and economic factors that define modern science and technology,' comments Matsuda.

One of the main ways Matsuda says they are hoping to disseminate the findings from their research and ensure they are in manageable amounts for people to digest is through the Meta Science and Technology Research Workshop. He notes that joint discussions will be held at the Workshop under the banner of Advanced Integrated Research on Social Implementation of Life and Environmental Technology-Vision and Trial of 21st Century Participation funded by the Japan Society for the Promotion of Science (JSPS), which will last until the end of 2020.

The team has also been quick to adapt to the ever-changing world and integrate

issues relating to the global COVID-19 pandemic. This new virus provides a valuable example of how a cautious approach to implementing new innovations is the best approach. It is clear that a vaccine will be developed at some stage, but it is essential that trials, procedures and standard protocols are followed prior to making the vaccine widely available. Matsuda is promoting the idea that scientists should ensure they have enough knowledge to inform their decisions before making them, and as COVID-19 forms a part of the team's considerations it helps show the benefits of the precautionary attitude Matsuda is a keen supporter of.



A manga product about the history of asbestos hazards from the activities of this project

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## THE BENEFITS OF MULTIPLE EXPERTS

A particularly important aspect of this project is that, while it will deepen research on individual subjects, it will provide new insights by integrating knowledge across different fields. By bringing together researchers who have expertise in applied ethics, humanities and the social sciences, each individual researcher will help to complement all the others. 'It is essentially pooling together knowledge and generating expertise that is greater than the sum of its parts,' notes Matsuda.

However, while this is an effective approach, it is not without its problems. 'The biggest challenge is that each member of this research is already busy and it is not always easy to communicate effectively with researchers in fields beyond their own specialties,' observes Matsuda. 'Although this situation cannot be completely overcome, the direction in which joint research should converge is to set the decision regarding the social implementation of 'life' and 'environment' technologies,' he says. It is for this purpose that the team have set a policy of utilising their own expertise and providing

information that can be easily shared with each other to support and foster an understanding of the work.

Ultimately, by combining the various methodologies that scientists use in their search for, and justification of, 'scientific truth' that form the basis of science and technology research with ethical and legal issues, the team is hopeful that it will be possible to incorporate the research results into the curriculum of common education for graduate schools and faculties in the future.

## PLANTING SEEDS FOR THE FUTURE

Matsuda is keen to plant the seeds of inquiry into ethics, methods and policy so that they can be sown by the next generation of researchers. 'As technological developments continue to accelerate, more and more questions regarding the ethics of innovations will present themselves,' he comments. It is that which forms the basis of Matsuda's inquiries and while he is not providing a definitive answer, he is at least encouraging us to take a step back and consider the potential implications of our actions before we perform them. ●



A picture of a meeting with the family of asbestos victims

## Project Insights

### FUNDING

JSPS, 'Leading Humanities/Social Science Research Promotion Business Area Development Program by Setting Issues', 'Advanced Fusion Research on Social Implementation of Life/Environmental Technology-Vision and Trial of 21st Century Participation' (2017 to 2020)

### CO-INVESTIGATORS

Kobe University - Professor Masayuki Ito, Professor Togo Tsukahara, Professor Hiroshi Takahashi, Associate Professor Takeshi Haraguchi

### RESEARCH COLLABORATORS

- Kobe University - Professor Takashi Yanagawa, Professor Tetsu Ichizawa, Professor Narufumi Kadomatsu, Professor Emeritus Masanobu Ishikawa, Professor Naoto Chantani, Associate Professor Mao Naka, Associate Professor Kengo Itamochi, Associate Professor Takuya Niikawa
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### BIO

Professor Tsuyoshi Matsuda is currently the Vice Dean of the Organization for Advance and Integrated Research and is based at Kobe University. He is also a Board member of both the Japanese Leibniz Society and Kansai Philosophical Association.

