## GRAN PSCS ODYSSEY: THE

## HUMAN PSCs ODYSSEY: THE SYNERGY OF BASIC AND APPLIED RESEARCH

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Human pluripotent stem cells (PSCs) are a powerful tool for basic science research, including cell biology, developmental biology, regenerative medicine, and epigenetic reprogramming, and they are also opening up new avenues for applied research. From the ability to generate individual cells, applications in regenerative medicine have been developed. The ability to generate cells has been further refined, and organoid research is now underway for each organ. The National Center for Child Health and Development has conducted physician-led clinical trials for pediatric rare diseases using human ES cells. In organoid research, the center has also progressed from the creation of Mini-guts to the study of disease and disease models. This presentation will introduce research results that span the basic and applied aspects of human PSC research. In addition, as a new application of PSCs, embryo model research is attracting attention. While keeping an eye on global research trends, I would also like to touch on a comparison of the code of practice for embryo model research between Japan and the UK.

Hidenori Akutsu is the Director of the Center for Regenerative Medicine at the National Center for Child Health and Development (NCCHD) in Tokyo, Japan. His research explores mechanisms of preimplantation development, cellular reprogramming, and regenerative medicine. He is a member of the human ES derivation team at the NCCHD and a former member of the Expert Panel on Bioethics, Council for Science and Technology Innovation (CSTI) of Japan.

Akutsu received his M.D. from Hirosaki University and completed his clinical training in obstetrics gynecology at Fukushima Medical University. He completed his Ph.D. at Fukushima Medical University School of Medicine.

