Focus Session Details:

Rapid developments in human brain organoid research are likely to produce tractable new bioengineered tools for understanding functional interconnectivity of the human brain and dysfunction involved in many neurodegenerative diseases. Despite the excitement surrounding this subfield of stem cell research and its considerable scientific promise, advances could also raise novel ethical concerns. As researchers generate evermore realistic organoids that resemble human brains in vitro, it is critically important to understand what ethical boundaries may exist and where researchers and regulators should draw the line for research. In this focus session, panelists will discuss scientific, ethical, and policy issues surrounding the use of human pluripotent stem cells to generate self-organizing brain organoids and assembloids for research. The session will include scientific presentations describing how researchers generate brain organoids and how they propose to use them to advance our understanding of the brain, as well as ethics presentations on the limits of this research. The session will conclude with a discussion of regulatory and stakeholder issues, in addition to a sustained panel discussion between the audience and all of the presenters.
What can we learn from brain organoids?
Paola Arlotta, PhD
Harvard University, USA

How far can brain organoid research go?
Sergiu Pasca, MD
Stanford University, USA

What else could we do with brain organoids?
George Church, PhD
Wyss Institute, Harvard University & the Massachusetts Institute of Technology, USA
WHAT SHOULD BRAIN ORGANOID RESEARCHERS BE MOST CONCERNED ABOUT IN THE NEAR TERM?

Karin Jongsma, PhD
UMC Utrecht, Netherlands

10:15 am - 10:25 am BREAK

10:25 am - 10:45 am WHAT IS THE PATIENT PERSPECTIVE ON BRAIN ORGANOIDS?

Karin Jongsma, PhD
UMC Utrecht, Netherlands

10:45 am - 11:05 am STAKEHOLDER VIEWS – HOW TO SCIENTISTS AND VARIOUS PUBLICS VIEW BRAIN ORGANOID RESEARCH AND WHO SHOULD BE MAKING DECISIONS ON ITS REGULATION?

Misao Fujita, MS, MPH, PhD
Center for iPS Cell Research and Application, Kyoto University, Japan

11:05 am - 11:55 am PANEL DISCUSSION & AUDIENCE QUESTIONS

11:55 am - 12:00 pm CLOSING SUMMARY

Insoo Hyun, PhD
Case Western Reserve University School of Medicine & Harvard Medical School, USA