Workshop on Culturing Cerebral Organoids

Overview: Recent advances in cell culture technologies have led to the development of new three-dimensional tissue models, known as organoids, which more accurately reflect key structural and functional properties of their in vivo counterparts. Mini-brains (cerebral organoids) are now being used to study brain disorders, such as Alzheimer’s disease, schizophrenia, microcephaly and other brain disorders, as well as in drug discovery and regenerative medicine. The development of organoid cultures have a great expectation within the research community to get valuable information in development and disease.

Karolinska Stem Cell Organoid (KISCO) at KI is constantly working to develop more accurate and scalable organoid culture methods. KISCO has developed a 3D-organoid culture system which utilizes hydrogel encapsulation and use of spinning bioreactors as well as microgravity based rotary wall vessel bioreactor to mimic the natural microenvironment for the brain development. The objective of this workshop is to provide knowledge and information about the developments in the area of organoids / 3D culture and support research groups that look forward to incorporate reliable and advanced in vitro organoid models in their ongoing and future research projects/studies.

Tuesday, September 14, 2021 between 9:00 am to 13:00 pm

Location: NEO-KI Building/ Campus Huddinge. Lecture Room: to be announced.

Organized by Karolinska Stem cell & Organoids Unit, at the Depart. of BioNut, KI, Huddinge Campus

Session Topics

- 9:00 - 9:20 Stem Cells and Development Jose Inzunza
- 9:20 – 9:50 Organoids from pluripotent stem cells Mukesh Varshney
- 9:50 – 10:20 Nanoscopic Live organoid imaging Balpreet Ahluwalia
- 10:20- 10:30 Coffee Break
- 10:30 - 11:00 Organoids and disease modeling Ivan Nalvarte
- 11:00 – 11:40 Cells and materials in regenerative medicine Mukesh Varshney
- 11:40 – 13:00 General aspects/discussions and Lunch