EMBL symposium report – Organoids: modelling organ development and disease in 3D culture

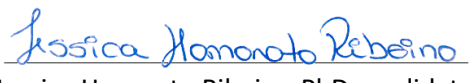
I am delighted to have received the PIANOFORTE Travel Grant for Early Career Researchers, which fully supported my participation in the symposium entitled *"Organoids: modeling organ development and disease in 3D culture",* held in Heidelberg, Germany from October 18th to 21st, 2023. The event was organized by the European Molecular Biology Laboratory (EMBL) aiming to bring together researchers working on the organoid field, increasing our knowledge of how mini organs can be generated, and how they can be used to model diseases, and eventually used to regenerate and even replace human tissues.

During the symposium, I had the privilege of presenting my PhD work entitled *"Human forebrain organoids recapitulate radiation-induced microcephaly"*, in a poster format. The poster session provided me with an opportunity to receive valuable insights from fellow researchers regarding my work. It also enabled me to engage in discussions with other doctoral and postdoctoral researchers who are involved in similar fields of study. For instance, I had the opportunity to discuss with researchers who were also working on brain organoid generation to (1) model DNA damage-induced brain diseases, and to (2) study the response of glioblastoma to ionizing radiation exposure.

Besides the nice discussions during the poster sessions, different presentations were given by renowned researchers working on the organoid field. During these talks, the latest advancements were presented, that were divided in different sessions: (1) concepts from development and evolution, (2) building organoid complexity, (3) organoids from adult stem cells, (4) organoids in regenerative medicine/therapy, and (5) organoids in disease modeling. Personally, the main highlight for my own research topic relates to the development of even more advanced organoids to model the human brain *in vitro*. Researchers have been working on a more complex neuroepithelium and in the generation of single-rosette brain organoids, resembling the single neural tube present in the human embryo. Those complex models can help to better understand the sensitivity of the developing human brain to ionizing radiation, and further improve radiation protection of patients in different disease contexts (eg. DNA damage-induced microcephaly, brain cancer).

Participating in this conference provided me with an opportunity to gain a broader perspective within my research field. In addition, I gained numerous insights into innovative techniques that could be used on my own project. For example, I plan to integrate some of the imaging techniques I learned, such as organoid live imaging and tissue clearing, into my research. Furthermore, I had the chance to connect and network with researchers who are working on similar topics, that could benefit my future research.

Yours sincerely,



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