

CSF SUMMER SCHOOL FOR YOUNG SCIENTISTS

Fighting gynecological tumors: Women's Health in Focus

July 7th - 11th

Program leader

Dr. Aymara Mas

Group: Molecular and Cellular Origin of
Gynecological Tumors.

Description:

Ovarian and uterine tumors stand out as the primary forms of cancer affecting the female reproductive system. Our research based on liquid biopsy and single-cell approaches aims to develop predictive models for the differential diagnosis and to infer tumor heterogeneity for changing the clinical interventions.

By engaging in both theoretical and hand-on sessions and actively participating in scientific discussions, attendees will acquire a thorough comprehension of the processes underlying tumor development.



Learning objectives:

- Obtain a detailed overview of the current research endeavours in women's health, specifically focusing on gynecological tumors.
- Acquire comprehensive and specific documentation to prepare a research proposal for the presentation of Ethics Committee, encompassing study design, ethical considerations, legal regulations, participant recruitment strategies, sample collection, and monitoring.
- Gain insight into managing human samples for research: create an anonymized registry, handle processing, and manage storage.
- Get a thorough update on the different molecular approaches and techniques being utilized in our lab.
- Obtain first-hand knowledge from cell culture procedures to enhance your experience.
- Use computational techniques to examine sequencing data, enabling the development of an in-depth biological interpretation.
- Become familiar in arranging data and content for presentation in a scientific manuscript.





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Provisional Outline Timetable:

07
JULY

General presentation: introduction and samples registration

- 9:00 - 11:00 | Welcome to the Carlos Simon Foundation; Introduction to our group and course presentation. Overview about the ongoing research projects & clinical trials
- 11:30 - 13:30 | Management of human samples for research purposes

08
JULY

Single-cell approaches: Processing and storage tumor-tissue samples

- Learn the techniques for processing tumor tissue, isolating cells or nuclei, and conducting cell cultures

09
JULY

Cell culture techniques (organoids)

- Introduction to 3D cell culture techniques and potential research purposes

10
JULY

Molecular techniques for liquid biopsy purposes

- 9:00 - 11:00 | Learn how to process blood samples, plasma isolation and store them properly
- 11:30 - 13:30 | Gain an introduction to molecular techniques such as ctDNA/RNA isolation, quality control analysis and RT-qPCR

11
JULY

Computational analysis and biological interpretation

- 9:00 - 11:00 | Apply computational approaches to analyze sequencing data
- 11:30 - 13:00 | Understand the results and biological interpretation before publishing research papers. Discuss research based on the topics you've explored during the last week
- 13:00 - 13:30 | Diploma handout and farewell

(*) Please note that this is a sample program. Since this program follows a shadowing format, the proposed activities and schedules may vary depending on the progress or status of the research at the time the course is conducted.

