



Carlos Simon
Foundation
FOR RESEARCH IN WOMEN'S HEALTH

3rd Edition

CSF SUMMER SCHOOL

FOR YOUNG SCIENTISTS



**INNOVATION IN MATERNAL-FETAL MEDICINE
FROM DISCOVERY TO BEDSIDE**

13 - **17**
JULY - JULY

Description:

This intensive program offers an immersive introduction to biomedical research in reproductive health, with a particular focus on pregnancy-related complications. Through a combination of laboratory exposure, seminars, and participation in scientific discussions, students will gain insight into how research

projects are conceived, designed, and translated from the laboratory to clinical application. The program aims to provide a realistic view of day-to-day research activity in a translational research environment.

Learning objectives:

- Become familiar with research projects in reproductive medicine, particularly those related to pregnancy complications, including how scientific questions are formulated and addressed.
- Understand the fundamentals of experimental design, sample handling, and the use of different methodological approaches in biomedical research.
- Gain exposure to laboratory workflows, from receiving and processing biological samples to data generation and interpretation.
- Acquire a general understanding of commonly used laboratory techniques in molecular and cellular biology.
- Explore how in vitro models are used to study physiological and pathological processes in reproductive tissues.
- Develop basic knowledge of data analysis approaches and how results are critically interpreted.
- Understand the essential steps involved in translating laboratory findings into clinical research.
- Learn how scientific findings are structured and communicated in manuscripts and presentations.

Program Leader

Dr. Tamara Garrido

Group: Maternal implications in the origin of preeclampsia



3rd Edition



Carlos Simon
Foundation
FOR RESEARCH IN WOMEN'S HEALTH

CSF SUMMER SCHOOL

FOR YOUNG SCIENTISTS

INNOVATION IN MATERNAL-FETAL MEDICINE
FROM DISCOVERY TO BEDSIDE

13 - 17
JULY - JULY

Provisional Outline Timetable:



13 JULY

PRESENTATION AND GENERAL INTRODUCTION

- **9:00 - 11:00** | Arrival at Carlos Simon Foundation; welcome and program presentation. Overview of the Preeclampsia Research Group and ongoing projects
- **11:30 - 13:30** | Introduction of ongoing clinical trials. Ethical considerations and patient recruitment



14 JULY

PROCESSING BLOOD SAMPLES, SEQUENCING AND PUBLISHING

- **9:00 - 11:00** | **Patient sample registration and traceability.**
Blood processing and plasma storage: introduction to biobanking
- **11:30 - 13:30** | **Sequencing: from raw data to biological interpretation.**
From the need to the biotech company: regulatory requirements



15 JULY

TISSUE PROCESSING AND IN VITRO MODELS

- **9:00 - 11:00** | **Introduction to human tissue samples and potential research purposes.**
Applications of primary cells in research
- **11:30 - 13:30** | **Working with preserved tissues samples.**
Downstream applications; histology, immunostaining and so on



16 JULY

MOLECULAR AND ANALYTICAL TECHNIQUES

- **9:00 - 11:00** | **Obtaining genetic material and proteins.**
Introduction to molecular techniques such as RT-qPCR, WB and others
- **11:30 - 13:30** | **Visualizing, measuring and interpreting results.**
Discussion of real data from ongoing projects



17 JULY

FROM RESULTS TO INNOVATION

- **9:00 - 11:00** | **Analysis of results: choosing the best way to show it.**
Learning the basic steps of publishing research
- **11:30 - 13:00** | **Translating research into innovation**
- **13:00 - 13:30** | **Final reflection and wrap-up session.** Diploma handout and farewell