



Internship proposition
One page max
M2 OHNU 2025-26



Lab: CIRCI2NA

Team: 7

Name and position of the supervisor: Sophie Barillé-Nion

Email of the supervisor: sophie.barille@univ-nantes.fr

Candidate (if internship filled):

Title of the internship: Chemotherapy-induced cell death in the most aggressive breast cancers: which molecular players determine its mode of execution and what consequences for the antitumor immune response?

Summary of the internship proposal:

Chemotherapy remains the mainstay of treatment for the most aggressive breast cancers, i.e. those that are immediately metastatic or at high risk of metastasis (including triple-negative breast cancers). Unfortunately, its efficacy is only partial, and the clinicobiological responses it may trigger remain little explored, even though they will determine patients' prognosis. Our project is to evaluate the consequences of chemotherapy cytotoxicity on the dialogue between tumor cells and cells in the immune environment, in order to identify the molecular players determining tumor fate. We will focus on the mode of cell death and the inflammatory signaling that may accompany it, induced preferentially by antimitotic chemotherapy (apoptosis, pyroptosis or others) depending on the molecular players present in tumor cells (proteins of the BCL2 family, Gasdermins, RIPkinases...). We will analyze the nature of the warning messengers that will be produced during the execution of chemoinduced cell death and according to its mode of execution, in order to identify those that may contribute to amplifying the efficacy of chemotherapy either directly or via a more effective antitumor immune response.

Option(s) linked to the project:

Hematology

Immunology-Cancerology

Oncology

Nuclear Medicine

Option(s) linked to the profile:

Clinical Research Profile

Experimental Biology Profile

Data Analyst Profile