

Lab: CRCI2NA INSERM UMR1307 & CNRS UMR6075, Nantes

Team: Team 10 PETRY “Plasticity of the tumour ecosystem after radiotherapy”

Name and position of the supervisor: Colin Niaudet, NExT investigator / INSERM CRCN

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Candidate:

Title of the internship: Impact of irradiation on self-organized vascular networks

Summary of the internship proposal:

Background: PETRY team at CNRCI²NA studies the impact of radiotherapy on brain tumors, especially glioblastomas, and the surrounding healthy tissue. In particular, we investigate the changes affecting the vascular system in brain after radiation, using mouse and 3D cellular models (bioprints, organochips).

Project: The Master II project aims at developing a self-organized, 3D vascular network and analyze the effect of ionizing radiation over its architecture and functionality. The student will use cell culture of various models including reporter-tagged cell lines, perform seeding in 3D matrices, and follow-up after irradiation using video- or confocal- microscopy.

Perspectives: Results from in vivo and 3D models will be integrated to better delineate the effects of radiation over the vascular system and help devise strategies to protect patients from radiotherapy side effects.

Option(s) linked to the project:

Clinical Research Profile

Data Analyst Profile

X Experimental Biology Profile