

ESP-ATC for Bone and Soft Tissue pathology

Name and address of the centre

Institut Bergonie
Department of Pathology
33000 Bordeaux
FRANCE

▪ Chair of the centre: Prof Francois Le Loarer
(Head of the Department of Biopathology: Dr Benjamin BONHOMME, MD)

▪ Head of the training programme: Pr Francois Le Loarer

Name of the ESP-ATC	Bordeaux (Institut Bergonié)
Name of the training supervisor at the ESP-ATC	Pr Francois Le Loarer, MD, PhD
Email of the training supervisor at the ESP-ATC	f.le-loarer@bordeaux.unicancer.fr

▪ Details about specific areas in which training can be offered:

Our department and affiliated research unit has following equipments on which training can be provided to the applicants/bursary trainee

- sequencing platform for exome-sequencing, whole exome RNA-sequencing, targeted rna-sequencing with engineers in molecular genetics (2 PhD)
- bioinformatics platform to analyse and compute rna- methylome sequencing data (bioinformaticians level MSC, 3)
- Deep learning analysis with a mathematical engineer (Dr LE V-L, PhD)
- *in vitro* screening platform (Agilent platform, culture of cell lines, confocal microscopy...) for drugs sensitivity assessment (Dr Verbeke, PhD engineer)
- supervised access to in vivo platform

Investigators in bone and soft tissue tumors at the training center

Dr Raul PERRET, MD, MSc

Pr Francois LE LOARER, MD, PhD

- Number of positions offered for each year, expected duration of the training
1 position/year for the GFR
1 position/year for the GF

- Specific periods of the year when the visit may be realised:
any depending on the position is already filled by a master student

- Contact email address for requesting details by the applicant

f.le-loarer@bordeaux.unicancer.fr

Presentation of the research activities of the group

Our group is dedicated on bone and soft tissue tumors with different methods of characterization:

- whole exome RNA-sequencing platform
- deep learning analysis
- immunohistochemistry platform

These technologies are performed *in house* and managed with PhD engineers.

We are committed to decipher subtypes of sarcomas to identify their recurrent clinicopathological features to improve the sarcoma classification and provide robust prognostic prediction to clinical teams to better manage sarcoma patients.

Our unit also develop sarcoma models of cell lines and PDX murine models performed in house for the in vitro cell lines while the PDX models are managed in an academic facility at the university.

Finally we perform screening studies in vitro and in vivo on sarcoma subtypes to identify therapeutic vulnerabilities.

Depending on the candidate experience and preferences, different projects can be proposed for the research fellowship.

Recent publications of the group (10 recent publications directed or conducted by the PI of the lab)

-Standardized Pathology Screening of Mature Tertiary Lymphoid Structures in Cancers.

Vanhersecke L, Bougouin A, Cromb   A, Brunet M, Sofeu C, Parrens M, Pierron H, Bonhomme B, Lembege N, Rey C, Velasco V, Soubeyran I, Begueret H, Bessede A, Bellera C, Scoazec JY, Italiano A, Fridman CS, Fridman WH, **Le Loarer F**. **Lab Invest.** 2023 May;103(5):100063. PMID: 36801637

-Deciphering Pseudoendocrine Sarcoma: A Clinicopathological, Molecular, and Epigenetic Study Suggesting Biological Links With Solid Pseudopapillary Neoplasm of the Pancreas.

Fern  ndez-P  rez J, Pommepuy I, Michal M, Michal M, Cleven AHG, Bouvier C, Gomez-Brouchet A, Weingertner N, Papke DJ, Jo VY, Garcia J, Agaimy A, Azmani R, Bourdon A, Hostein I, Soubeyran I, Alame M, Velasco V, Coindre JM, **Le Loarer F**, **Perret RE**. **Mod Pathol.** 2025 Oct;38(10):100810. PMID: 40513989

-DICER1-mutated rhabdomyosarcoma of the ovary with teratoid features.

Lethongsavarn V, Vieille P, Kikweta Makhama J, Azmani R, Lafrance W, Khneisser P, Truffaut N, Alame M, Genestie C, Gaspar N, Diedhiou A, Croce S, **Le Loarer F**. **Genes Chromosomes Cancer.** 2023 Dec;62(12):746-754. PMID: 37706559

-Mature tertiary lymphoid structures predict immune checkpoint inhibitor efficacy in solid tumors independently of PD-L1 expression. Vanhersecke L, Brunet M, Guégan JP, Rey C, Bougouin A, Cousin S, Moulec SL, Besse B, Lorient Y, Larroquette M, Soubeyran I, Toulmonde M, Roubaud G, Pernot S, Cabart M, Chomy F, Lefevre C, Bourcier K, Kind M, Giglioli I, Sautès-Fridman C, Velasco V, Courgeon F, Oflazoglu E, Savina A, Marabelle A, Soria JC, Bellera C, Sofeu C, Bessede A, Fridman WH, Loarer FL, Italiano A. **Nat Cancer**. 2021. PMID: 35118423

-Beyond Surgical Margins: Fully Mature Tertiary Lymphoid Structures (fmTLSs) Are Predictive Biomarkers for Local Recurrence in Primary Soft-Tissue Sarcomas. Michot A, Vanhersecke L, Dinart D, Bourdon A, Azmani R, Velasco V, Bonomo I, Toureille M, Toulmonde M, Perret RE, Bellera C, Coindre JM, Loarer FL. **Cancers** (Basel). 2026. PMID: 42279277

-PRAME immunohistochemistry in soft tissue tumors and mimics: a study of 350 cases highlighting its imperfect specificity but potentially useful diagnostic applications. Cammareri C, Beltzung F, Michal M, Vanhersecke L, Coindre JM, Velasco V, Le Loarer F, Vergier B, Perret R. **Virchows Arch**. 2023. PMID: 37477762

-Recurrent YAP1::MAML2 fusions in "nodular necrotizing" variants of myxoinflammatory fibroblastic sarcoma: a comprehensive study of 7 cases. Perret R, Tallegas M, Velasco V, Soubeyran I, Coindre JM, Azmani R, Baud J, Bacle G, De Pinieux G, Le Loarer F. **Mod Pathol**. 2022. PMID: 35546636

-Atypical Spindle Cell/Pleomorphic Lipomatous Tumor With Sarcomatous Transformation: Clinicopathologic and Molecular Analysis of 4 Cases. Perret R, Charville GW, Alame M, Rebier F, Soubeyran I, Gross JM, Graham D, Green DC, Kerr DA, Khan WA, Cloutier JM. **Mod Pathol**. 2024. PMID: 38417627