

CALL FOR A POST-DOCTORAL FELLOW IN ACUTE MYELOID LEUKEMIA RESEARCH

Host team & institute: BENAJIBA team - INSERM U944 - Institut de Recherche Saint-Louis

Website: <https://gencelldis.fr/l-benajiba-team/>

Address: Hôpital Saint-Louis - 16, rue de la grange aux belles, 75010, Paris.

Saint-Louis Research Institute was created in 1958 by Jean Bernard and Jean Dausset (Nobel Prize), aiming to achieve excellence in research and teaching, in the fields of **hematology, oncology, cell biology, immunology, virology, genetics and therapeutic biotechnologies**. Our research institute is located in the **center of Paris within the Saint-Louis campus**, and benefits from a close relationship and collaboration with Saint-Louis hospital. The institute is affiliated to the **doctoral school of "Hematology, Oncology & Biotherapies"** and hosts the **"European School of Hematology"**, thus participating to the **training of over 2000 researchers and clinicians every year**. Since 2020, Saint-Louis Research Institute is also the home of the ambitious **"National Leukemia Institute THEMA"**, which seeks to develop public-private partnerships to cure leukemia.

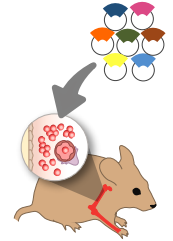
Our research unit (UMR U944: genomes, cellular biology & therapeutics), has an **internationally recognized research program with world-renowned leukemia researchers**, such as Jean Soulier, Hugues de Thé and Alexandre Puissant. Consequently, intellectual interactions among our department members are fostered by a number of **weekly research seminars**. Our research unit is composed of 6 groups whose research encompasses a broad spectrum of fields, including basic virology, cell biology, cancer genomics, cancer biology and leukemia research, yeast biology, functional studies of post-translational modifications and chromosome biology. Our team is focused on **identification and targeting of extrinsic and epigenetic regulators of myeloid malignancies**, and is currently composed of **3 principal investigators, 1 associated clinician, 1 lab manager, 2 bio-informaticians, 2 research technicians, 5 PhD students and 3 Master students**. Most of the studies carried out by our team bridge several of those fields and have implications in translational research, together with the clinical groups of Saint-Louis hospital. The team works in **close partnership with Saint-Louis Hospital Clinical Investigations Center (INSERM-CIC 1427)** to accelerate the clinical translation of our lab discoveries. Our team also benefits from a privileged access to **primary patient samples** and a **large variety of institutional core facilities**, including a fully equipped animal facility, a Fluorescence Activated Cell Sorting and flow cytometry facility, a sequencing facility, and an imaging facility.

Available position: An INSERM funded **two-years post-doctoral position** (possible extension of three extra years) will open in **March 2023** in the team led by Dr Lina BENAJIBA, a physician-scientist focusing on target identification and drug discovery in Acute Myeloid Leukemia.

We are looking for a **highly motivated and dynamic** fellow wishing to complete his post-doctoral training in a young and international ATIP-Avenir team, hosted by an internationally renowned INSERM Unit. The candidate must appreciate teamwork, have good interpersonal skills and be rigorous and organized in his/her work. Experience in **molecular/cellular biology and murine models** is required. Experience in **single cell RNA-seq technologies** and **in vivo imaging** would be an asset. Applicants should hold a **PhD degree in Biochemistry, Cellular Biology, Molecular Biology, Oncology, Hematology or related disciplines** (or have recently submitted their thesis with scheduled defense) and have published (or about to publish) in a peer reviewed journal.



Project description: Our team develops new translational research strategies focused on the **identification of druggable oncogenic targets** to pave the road for successful acute myeloid leukemia (AML) treatment. The post-doctoral fellow will seek to dissect the **key role of the bone marrow (BM) niche** in AML development, maintenance and drug resistance, aiming ultimately to develop **concomitant “seeds” and “soil” preventive and curative therapeutic strategies** to improve patients’ prognosis. **Novel niche-hematopoietic crosstalk-induced dependencies will be unraveled using single cell RNAseq technologies combined to high-throughput functional screening methods** in ectopic humanized BM-AML organoids specifically engineered for large scale target discovery. He/she will then shed light on the **mechanistic underpinnings of the BM-leukemia crosstalk** using transcriptomic-, epigenomic- and microscopy-based approaches.



Selected publications:

1. Lin KH, Rutter JC, Xie A, Killarney ST, Vaganay C, Benaksas C, Ling F, Sodaro G, Meslin PA, Bassil CF, Fenouille N, Hoj J, Washart R, Ang HX, Cerda-Smith C, Chaintreuil P, Jacquelin A, Auberger P, Forget A, Itzykson R, Lu M, Lin J, Pierobon M, Sheng Z, Li X, Chilkoti A, Owzar K, Rizzieri DA, Pardee TS, Benajiba L, Petricoin E, Puissant A, Wood KC. P2RY2-AKT activation is a therapeutically actionable consequence of XPO1 inhibition in acute myeloid leukemia. **Nature Cancer**. 2022 Jul;3(7):837-851. **IF: 23.177**
2. Roux B, Vaganay C, Vargas JD, Alexe G, Benaksas C, Pardieu B, Fenouille N, Ellegast JM, Malolepsza E, Ling F, Sodaro G, Ross L, Pikman Y, Conway AS, Tang Y, Wu T, Anderson DJ, Le Moigne R, Zhou HJ, Luciano F, Hartigan CR, Galinsky I, DeAngelo DJ, Stone RM, Auberger P, Schenone M, Carr SA, Guirouilh-Barbat J, Lopez B, Khaled M, Lage K, Hermine O, Hemann MT, Puissant A, Stegmaier K, Benajiba L. Targeting acute myeloid leukemia dependency on VCP-mediated DNA repair through a selective second-generation small-molecule inhibitor. **Science Translational Medicine**. 2021 Mar 31;13(587):eabg1168. **IF: 17.956**
3. Marcault C, Zhao LP, Maslah N, Verger E, Daltro De Oliveira R, Soret-Dulphy J, Gauthier N, Roux B, Clappier E, Parquet N, Dosquet C, Rea D, Zini JM, Vainchenker W, Raffoux E, Giraudier S, Kiladjan JJ, Cassinat B, Benajiba L. Impact of NFE2 mutations on AML transformation and overall survival in patients with myeloproliferative neoplasms (MPN). **Blood**. 2021 Nov 25;138(21):2142-2148. **IF: 23.629**
4. Benajiba L, Alexe G, Su A, Raffoux E, Soulier J, Hemann MT, Hermine O, Itzykson R, Stegmaier K and Puissant A. Creatine kinase pathway inhibition alters GSK3 and WNT signaling in EVI1-positive AML. **Leukemia**. 2019 Mar;33(3):800-804. **IF 9.9**
5. Benajiba L*, Wagner FF*, Campbell AJ, Weiwer M, Sacher JR, Gale JP, Ross L, Puissant A, Alexe G, Conway A, Back M, Pikman Y, Galinsky I, DeAngelo DJ, Stone RM, Kaya T, Shi X, Robers MB, Machleidt T, Wilkinson J, Hermine O, Kung A, Stein AJ, Lakshminarasimhan D, Hemann MT, Scolnick E, Zhang YL, Pan JQ, Stegmaier K and Holson EB. Exploiting an Asp-Glu "switch" in glycogen synthase kinase 3 to design paralog-selective inhibitors for use in acute myeloid leukemia. **Science Translational Medicine**. 2018 Mar 7;10(431):eaam8460. **IF 17.2**

Application & Contact: Applications must be sent to lina.benajiba@inserm.fr as a single PDF file including:

- Cover letter explaining the candidate’s interest in joining the lab and his/her future career development expectations (max 1 page).
- Curriculum Vitae including academic track, main technical skills, main past achievements and scientific productions.
- Contact details of three past supervisors who can be contacted for recommendation letters.