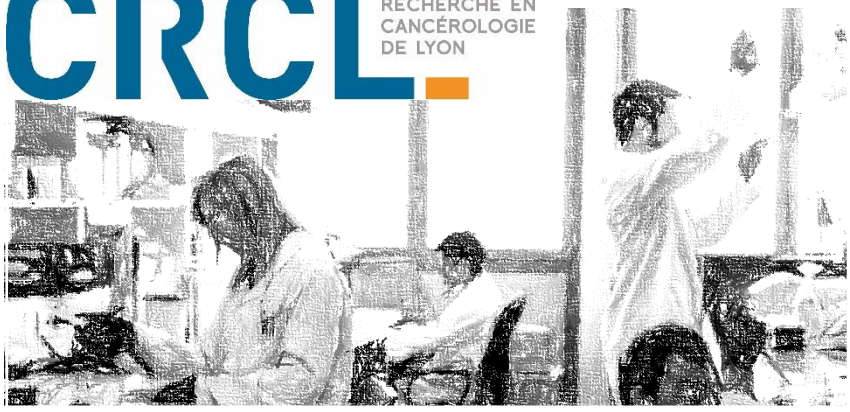
CRCL CENTRE DE RECHERCHE EN CANCÉROLOGIE DE LYON



CRCL Newsletter N°32

July – August 2020

Postponement of the CRCL 1st Retreat

As announced, the first CRCL retreat, initially scheduled for September 16-18, 2020, has been postponed until next year. Indeed, given the current evolution of the health situation, the management decided, with regret, not to continue the event.

Many thanks to the members of the organizing committee who worked in uncertainty until the last moment.

This is only a postponement, however, and the rescheduling of the event to 2021 is currently under consideration. The new dates will be announced as soon as possible, with the hope that the health situation will improve by then and allow us to take full advantage of the event.

Finalization of the Hcéres evaluation

The last step of the evaluation of the Center was endorsed following the validation, by our structures of affiliation, of the projects submitted by the teams applying to the 2021-2025 contract. This last step was successful since all the team projects were selected and will be present in the scientific organization chart of the CRCL. As proposed, the TERI and CITI departments therefore have 10 and 12 teams, respectively.

Additionally, we are pleased to welcome, at the beginning of October, Julien Ablain's new team (see his presentation on page 2), ATIP-Avenir 2019 winner, within the TERI department.

Université Claude Bernard Lyon 1 cnrs Inserm La science pour la santé From science to health CENTRE DE LUTTE CONTRE LE CANCER LEON BERARD

PRESENTATION D'EQUIPE

Presentation of the « Adhesion and signaling in metastatic melanoma » team, dir J. Ablain

Laureate of the 2019 edition of the ATIP-Avenir program, Julien Ablain will join the CRCL on October 1st to build his team. Entitled "Adhesion and signaling in metastatic melanoma" it will be located at Cheney A, 5th floor and will integrate the TERI department. Julien presents his background as well as the scientific project he wishes to develop at CRCL.

I have always been fascinated by the molecular mechanisms of living things. These mechanisms are often brought to light by studying their deregulation in the context of human diseases. Perhaps the most striking example is the malignant transformation of cells leading to cancer. I am trying to better understand these mechanisms of tumor initiation and progression in the hope that our findings allow us to design new therapeutic strategies to improve patient survival.

During my thesis in Prof. Hugues de Thé's laboratory at Saint-Louis Hospital, I contributed to the elucidation of the mode of action to one of the rare targeted curative treatments against cancer: retinoic acid in leukemia acute promyelocytic. These four years have been a foundational stage in my research career because they have not only taught me that the understanding of a mechanism is built patiently and methodically, despite the frustration inherent in the research activity, but also that fundamental work can lead to significant clinical advances. It is this lesson and this hope that still motivates me today and I am grateful to Hugues for having become a friend in addition to a mentor.

For my postdoctoral fellowship, I wanted to switch from leukemia to a type of solid tumor and I joined Professor Leonard Zon's lab at Harvard to study the biology of melanoma. Over the past 10 years, the evolution of sequencing technologies has made it possible to describe the genetic abnormalities present in human tumors with greater precision, but paradoxically has generated few notable advances in our understanding of the mechanisms of initiation or progression of cancer. Only the functional analysis of these anomalies can open up new perspectives on these mechanisms. During my post-doc, I discovered a powerful tool for the study of cancer genetics: the zebrafish, in which high-throughput genetic modification techniques make it possible to explore the function of new genes in the development of tumors. I myself, developed a method to inactivate genes specifically in melanocytes of fish, which allowed me to model in vivo the different genotypes found in human melanomas. This allowed me to identify new tumor suppressor genes in melanoma. One of these genes called NECTIN1, involved in cell adhesion, recently allowed me to discover a mechanism that regulates the detachment of melanoma cells from their primary tumor and promotes their spread. It is on this work that my research program at CRCL is based.

The general objective of my team at CRCL is to discover new vulnerabilities of cancer cells through a better understanding of the mechanisms of tumor initiation and progression. I am particularly interested in the formation of metastases, which is the leading cause of death in cancer patients. I concentrate on how cancer cells integrate signals from their microenvironment with their own adhesion capacity to regulate their behavior, in particular their balance between proliferation and migration. In melanoma, the presence of metastases is associated with a very poor prognosis. Unfortunately, the mechanisms behind the spread of cancer cells are still poorly understood. My approach is to draw on both our knowledge of the genetics of human tumors and our zebrafish models to study the biology of melanoma. In particular, I intend to exploit the power of genetic tools and the remarkable possibilities of high-resolution imaging of zebrafish to test the role of different factors in the tumor microenvironment and to observe the behavior of cancer cells "in situ". The goal of my research program is to sufficiently improve our understanding of the mechanisms regulating the behavior of tumor cells to be able to develop innovative therapies against aggressive cancers.

Beyond the purely scientific aspect, I love teaching and the transmission of knowledge in all its forms. I look forward to starting my work at CRCL and creating new scientific interactions to participate in the great challenge of cancer research.

CRCL PUBLICATIONS

NLRP3 controls ATM activation in response to DNA damage

Mélanie Bodnar-Wachtel, Anne-Laure Huber, Julie Gorry, Sabine Hacot, Laetitia Gerossier, Baptiste Guey, Nadège Goutagny, Birke Bartosch, Elise Ballot, François Ghiringhelli, Bénédicte F. Py, Yohann Coute, Annabelle Ballesta, Sylvie Lantuejoul, Janet Hall, Virginie Petrilli

bioRxiv 2020.05.12.087015

https://doi.org/10.1101/2020.05.12.087015

Characterization of T-DM1-resistant breast cancer cells

Sauveur J, Conilh L, Beaumel S, Chettab K, Jordheim LP, Matera EL, Dumontet C.

Pharmacol Res Perspect. 2020 Aug;8(4):e00617.

https://doi.org/10.1002/prp2.617

Oncogene-induced Senescence Limits the Progression of Pancreatic Neoplasia Through Production of Activin A

Zhao Y, Wu Z, Chanal M, Guillaumond F, Goehrig D, Bachy S, Principe M, Ziverec A, Flaman JM, Collin G, Tomasini R, Pasternack A, Ritvos O, Vasseur S, Bernard D, Hennino A, Bertolino P.

Cancer Res. 2020 Jun 17;canres.3763.2019. https://doi.org/10.1158/0008-5472.can-19-3763

CRCL NEWS

Focus on Scientific Workshop Committees of the CRCL

Following the recent restructuring of the scientific organization of CRCL and the establishment of two new departments, TERI (Tumor Escape, Resistance and Immunity) and CITI (Cancer Initiation and Tumor cell Identity), upper management wanted to breathe new life into to the scientific core of the center. Therefore, a new scientific coordination committee common to the two departments was formed. It is the result of a merger between former scientific department committees and is composed of one representative per research team (see box).

The committee meets every 2 months and takes charge of the implementation of various aspects of the scientific animation of the CRCL:

- Department seminars (“internal seminars”), the format for which is now the same for the two departments, The structuring of aCITI and TERI. The content is two 30-minute scientific presentations given by doctoral / post-doctoral students, with a short introduction (3 minutes) by their PI, and moderation managed by the students. The presentations are followed by a social gathering, which due to the current health situation can no longer take place. Internal seminars will resume on Oct. 1st and will continue to take place on Thursdays from 11 a.m. to 12 p.m., with CITI / TERI alternation in the JL Requin conference room (Cheney D -1). Attendees are limited to 26 people due to health constraints, and by videoconference. More information will be communicated in the near future on this subject.
- Friday medico-scientific seminars ("External seminars"), with the aim of bringing in about 10 scientific personalities with international visibility over the years, and more particularly to promote exchanges with young IPs and students.
- The "Thematic half-day" workshop, meets once or twice a year, with external speakers, in order to explore in depth certain topics of interest.
- Revive dynamic exchanges between CLB clinicians and CRCL researchers, in particular by helping to reflect on a new format of the Clinicians / Researchers Meetings (organized by Nathalie Bendriss-Vermare (CRCL) and Hélène Boyle (CLB)) .
- The structuring of an "Assistance with preparation for competitive exams" unit, whether for students (doctoral school competition) or researchers (INSERM and CNRS competition). This reflection will be carried out in collaboration with the people already involved in this process: Jenny Valladeau-Guilemond, Thibault Voetzel and Marie Castet.

The committee also aims to address certain aspects of the non-scientific CRCL workshops, for example: setting up Christmas meals per department and the set-up of “Lunch Breaks”, which follows the “Afterworks” to allow a convivial moment that is opened to all during the lunch break.

If you have any questions, please do not hesitate to contact the committee members who will be happy to address your questions.

The next committee meeting will be held on Friday September 18, 2020 at 2 p.m.

Committee members' listing

Management Unit - Reorganization and offices

Imane BOUZYANI arrived at CRCL's management unit on August 17 with a 4-month fixed-term contract. She will support of the project managers, and in particular Christèle Marchand with the teams management at the CLB site.

Anaïs Trento's departure for Canada has been postponed. She now acts as a support of Julie Pourchet, they now share an office (Cheney B 5th). Nacera Kartaf will take over the management of the teams previously managed by Anaïs, until the end of her contract scheduled for the end of November.

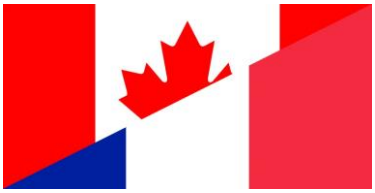
In addition, **Sophie LAMBERT**, who until now, held the position as assistant to Patrick Mehlen, has changed services and now works in closely with Cathy Biota, Logistics / Health and Safety manager. This merger led to a reorganization of several offices, Sophie Lambert now shares an office with Cathy Biota and Blandine Bruneel, HR / projects and development manager, has joined office with Claire Couvreur, assistant to Patrick Mehlen.

For your HR discussion needs, the 5th floor meeting room on Cheney B will now be reserved at 2pm on a daily bases.

Evening French Courses

In collaboration with the Université Claude Bernard Lyon 1, French evening courses will be available starting September. A professor dedicated to CRCL members only will hold the course(s) at the Rockerfeller site in Leannec. For those who wish to further advance their french language skills, please feel free to sign up for a course.
If you are interested, please contact quynh.chuong@lyon.unicancer.fr

Canada/France Virtual Meeting (IRIC/CRCL)



A virtual seminair will take place with our Canadian collaborators from The University of Montreal and The University of Sherbooke, Québec, respectively on October 15th and 16th. Scientific talks will be organized to further exchange on overlaping projects and data presentation. Considering the time difference, presentations will be held in the mid afternoon. More information to come.

3D cell culture: Corning seminar

The Corning company will be present at CRCL on Wednesday October 7 from 9 am to 12 noon, in the Jean-Louis Requin room to give a seminar entitled: "Advanced 3D cell culture applications: spheroid and organoid culture".

With the current the health situation, only 30 places are available to the first registrants via this link.

At first, thank you limit registration to only 1 person per team.

https://www.corning.com/emea/en/products/life-sciences/resources/webforms/3D-cell-culture-seminar-at-CRCL.html

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