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## PhD POSITION

### IN MOLECULAR CANCER BIOLOGY

*GIGA-Research Institute, University of Liege*

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**Topic:** EPITRANSCRIPTOMICS

RNA modification, mRNA translation and proteome remodeling in cancer biology

**Background:**

An increasing body of evidence indicates that translation reprogramming plays key roles in cancer development and drug resistance but the mechanisms involved in this process remain poorly understood. Specific tRNA modifications are required to optimize translation. In our lab, we hypothesize that such modifications may contribute to protein synthesis rewiring during tumorigenesis (1). We recently uncovered the key importance of codon-specific translation reprogramming in cancer development and drug resistance (2). By using a combination of mouse models of cancer, unbiased proteomics, single cell sequencing, ribosome profiling approaches, functional analysis with patient derived materials, and a deep molecular dissection of cellular signaling pathways, our work aims at providing a comprehensive examination of the contribution of specific tRNA modifications in oncogenic transformation, metastasis formation and drug resistance. Together, we hope to uncover new general mechanisms that support tumor adaptation through regulation of specific protein synthesis and will help define new therapeutic opportunities to fight cancer.

**Selected publications:**

*Close et al, Mol Cell (2006)*

*Close et al, Cell. Mol. Life Sc. (2010)*

*Close et al, J. Biol. Chem. (2012)*

*Close et al, Nature (2012)*

*Ladang, Rapino et al, J.Exp.Med. (2015)*

*Delaunay et al, J.Exp.Med. (2016)*

*(1)Rapino et al, Trends in Cancer (2017)*

*(2)Rapino et al, Nature (2018)*

*Rapino et al, Nature Comm. (2021)*

**Position:** A four years PhD position is available in the Lab of Cancer Signaling (GIGA-Institute). The ideal candidate should demonstrate high motivation and determination to be involved in competitive and high profile fundamental research in cancer biology. Solid statistical background and previous lab experience will be favorable. The student will benefit from a stimulating scientific environment (courses, activities, seminars) provided by the GIGA-Institute ([www.giga.uliege.be](http://www.giga.uliege.be)).

**Starting date:** immediate

**Application:** Please send your application to: **Pierre.Close@uliege.be**

Dr. Pierre CLOSE

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University of Liege

More infos at [www.gigalcs.uliege.be](http://www.gigalcs.uliege.be)

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