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## PhD THESIS OFFER

**Principal Investigators:** P Bertolino/G Raverot

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**Project Duration:** Position funded for 3 years

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**Expected starting date:** October/November 2018 (selection deadline Sept the 20th of 2018)

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Pituitary tumours are the second most common intracranial neoplasms in adults. With an incidence of 15.5 million/year, they account for up to 15% of diagnosed brain tumours and represent a major health issue with an incidence of 1 case out of 1500 persons. These tumours constitute a complex and heterogeneous group of cancerous lesions with several fundamental and therapeutic challenges. The group of Prof Raverot & Dr P Bertolino focuses on the identification of new markers and molecular/cellular mechanisms that drives the tumorigenesis and aggressive behaviour of those tumours. Within the last 3 years the group started to explore the implication of the pituitary tumour microenvironment with the challenging objectives to extend the boundaries of their current classification and therapeutic limitations. This work has been facilitated by the unique setup of the team that allows the access to large cohort of biological clinical samples & patient related information and further provide a stimulating scientific environment for motivated students.

### Research project description

The PhD project aims at pursuing the exploration of the heterogeneity and role of Pituitary tumour microenvironment initiate within the lab. The work will focus on the role of Folliculo-stellate cells (FSCs) in tumour onset and aggressiveness progression. The student will be involved in all aspects of the research project, from the histological cartography (using large scale 2D reconstruction modelling) of those cells within different subgroups to the functional characterization of a series of derived FSC lines from patients (real time behaviour imaging, comparative analysis of 2D/3D *in vitro* co-culture vs *in vivo* conditions, exposure to various physical constraints and molecular biology/gene expression analysis). The student will work in close collaboration with a technician and a post-doctoral fellow and will actively participate in the collective work of the lab. Note that the project may require some Interactions with EU collaborators, and therefore may imply a short-term EU-mobility.

### Required training & profile

The ideal applicant must have a Master in biology, neuroscience or cancer biology. He must be highly motivated and mature with a strong commitment to pursue a scientific academic career. Excellent organizational and communication skill will be required. A previous expertise in histological technics, primary cell cultures (2D/3D) and microscopy technics will be preferred. Knowledge in genetics/animal experimentation would be appreciate but does not constitute a prerequisite. Due to the international team setup, he should be proficient in written and oral English. Knowledge of French is an asset but is not mandatory.

### Condition of Internship

The candidate salary will be covered by la Région-Rhône-Alpes for 36 months. He will need to apply to the PhD program BMIC (BIOLOGIE MOLÉCULAIRE INTÉGRATIVE ET CELLULAIRE at the university Claude Bernard Lyon I (<https://edbmic.universite-lyon.fr>).

### Application Submission

Interested candidates must contact P Bertolino & G Raverot at [philippe.bertolino@inserm.fr](mailto:philippe.bertolino@inserm.fr) and [gerald.raverot@chu-lyon.fr](mailto:gerald.raverot@chu-lyon.fr). *Curriculum Vitae* should be enclosed as well as statement of interest and 1 or 2 referees' names.