

## We offer a PhD position on The role of primary cilia in colorectal cancer

### Project description

Colorectal cancer (CRC) is the third most common and deadly cancer worldwide. CRC is a molecularly highly heterogeneous disease and there is an urgent need to map the heterogeneity of CRC, to identify novel therapeutic intervention points as well as prognostic and predictive biomarkers.

Crucial in the regulation of intestinal homeostasis and pathology is the crosstalk between epithelium lining the crypts and neighbouring fibroblasts. An underexplored trait in cellular crosstalk are primary cilia (PC), an antennae-like structure extruding the surface of many mammalian cells. PC serve as sensors of environmental signals and regulate a range of signalling pathways associated with carcinogenesis.

We previously reported that colon carcinogenesis, in both mice and human, is associated with a decreased number of PC on colonic fibroblasts (Rocha *et al.* EMBP J, 2014). The PhD project we offer will explore the biomedical potential of PC and associated pathways in CRC. For this, the student will use tissue specific knock out mice, relevant animal models for CRC, immunohistochemistry, organoid cell cultures, biochemistry and RNAseq. Moreover, we collaborate with the local University Hospital as well as different clinical centers in Europe for the analysis of patient biopsies. Our recent publications illustrate our experimental strategy (Guo *et al.* J. Clin Invest, 2021; Maurizy *et al.* bioRxiv 10.1101/2019.12.19.882712, now in press at Nat Commun).

### Qualifications and skills:

You are a highly motivated student with a strong interest in cancer biology and translational biomedical research. Relevant experience with murine models would be advantageous. Fluent proficiency in written and oral communication in English is a prerequisite.

### Terms of employment:

We offer an interesting and challenging research project, individual supervision and working in a dynamic team. The position for the PhD project is available at the IGMM in Montpellier in autumn 2021 for a period of three years. The IGMM is a multidisciplinary and international research institute, where English is commonly spoken. The affiliated doctoral school in Montpellier provides a specific training as well as mentoring program for PhD students.

### Information and application:

For further information regarding this vacancy, please contact Dr. M. Hahne (E- mail: [michael.hahne@igmm.cnrs.fr](mailto:michael.hahne@igmm.cnrs.fr)). Interested candidates should send their electronic application in English, including a letter of motivation, Curriculum Vitae, credentials and qualifications, and reference contact information.