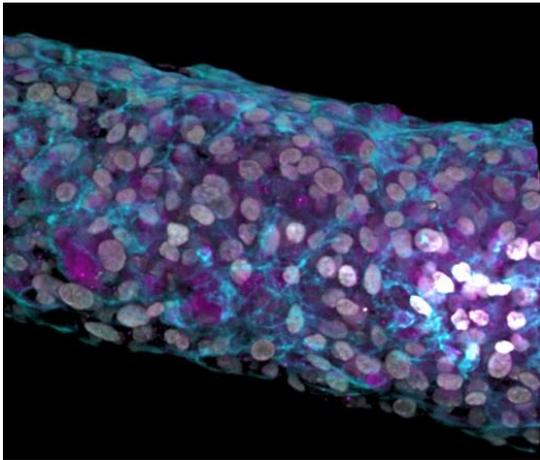


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## ANR-funded PhD position in the team Bronchial Remodeling (in the groupe led by I. Dupin) at CRCTB, Bordeaux



Our group is looking to hire a PhD student for an exciting project aiming at building an organoid modeling distal airways, that we called “bronchioid”, reproducing features of chronic respiratory diseases.

### ABOUT THE POSITION AND PROJECT

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This doctoral position is funded for three years and is available from September 1<sup>st</sup>, 2022. It is supported by an Agence Nationale de la Recherche (ANR AAP2021 “BRONCHIOLE”, coordinator: I. Dupin) grant. Chronic obstructive pulmonary disease (COPD) is a major public health disease (i.e., 3<sup>rd</sup> cause of death worldwide) characterized by persistent airflow limitation. To overcome the limitations of current distal bronchial models, the PhD student will : (1) develop a “bronchioid” model with human bronchial epithelial cells, bronchial smooth muscle cells and fibroblasts; (2) build a 3D bronchioid that resembles the phenotype and functionalities of distal airways of COPD patients, by incorporating infiltrating neutrophils and exposing the lumen to cigarette smoke.

This project is intrinsically interdisciplinary, and relies on basic and translational approaches together with a combination of advanced cell imaging and innovative 3D multicellular models to originally decipher essential and novel mechanisms governing COPD pathophysiology. The project involves 2 complementary partners, with chest physicians and physiologists from INSERM U1045 (Team ‘Bronchial remodeling’) and biophysicists from UMR CNRS 5298 (Team ‘Bioimaging and Optofluidics’). The student will drive the project with supervision and mentoring from group leader Isabelle Dupin, designing, performing, and analyzing experiments, working with other members of the team, preparing publications from the project.

### ABOUT THE TEAM AND ENVIRONMENT

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More at <https://www.bronchialremodeling.com/bpco>

The team “Bronchial Remodeling” is part of the Centre de Recherche Cardio-Thoracique de Bordeaux (INSERM U1045), located on the campus of the university of Bordeaux, in Pessac. We are a young and dynamic group of around 7 people (researchers/clinical researchers, PhD students, engineers, techs). The overarching aim of the group is to understand the development of chronic respiratory diseases using interdisciplinary approaches, by focusing on the interactions between cells and their microenvironment. We have a recognized expertise in pulmonary physiology and pathophysiology, applying classical cell biology techniques, innovative imaging techniques and mathematical modelisation. The presence in the team of pulmonologists and surgeons guarantees the access to clinical samples and feasibility of the project. The project will also benefit from outstanding imaging facility (Bordeaux Imaging Center), flow cytometry facility and from VoxCell platform for entubulation experiments.

## **ABOUT THE PROFILE**

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We are seeking for an interdisciplinary profile in biophysics, with knowledge in cell biology and physiology, or for a profile in biology/physiology with solid background in physics. Dexterity and thoroughness are valuable qualities for conducting this project. Experience in imaging, image analysis, primary cell culture, tissue engineering and/or flow cytometry would be appreciated. MD-PhD students are encouraged to apply.

## **ABOUT THE APPLICATION**

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Interested in this opportunity? Please apply before June 1<sup>st</sup>, 2022 by sending a CV and explaining why we should work together on this project to [isabelle.dupin@bordeaux.fr](mailto:isabelle.dupin@bordeaux.fr)

If you are not currently in M2 in Bordeaux, please be aware that you will have to submit an application file to the Doctoral School.