

# SCIENTIFIC SEMINAR



## Pedro Rodrigues Vieira

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### *Deciphering the complexity of cholangiocarcinoma tumors: novel insights in liquid biopsy, pathogenesis and therapeutic targets*

Cholangiocarcinoma (CCA) includes a heterogeneous group of biliary cancers with dismal prognosis. Etiopathogenesis is largely unknown and tumors usually have a silent growth, being commonly diagnosed in advanced phases, when the disease is already disseminated, thus limiting the access to potentially curative options. Current non-invasive diagnostic tools show suboptimal accuracy for CCA detection, particularly at early tumor stages. Consequently, there is an urgent need to develop accurate non-invasive diagnostic tools for the detection of early CCAs, particularly in patients at high-risk, such as primary sclerosing cholangitis (PSC). In this sense, extracellular vesicles (EVs), small membranous spheres found in biofluids which contain distinct biomolecules such as proteins, metabolites, nucleic acids and lipids from the cell of origin, have recently emerged as a potential source of biomarkers for human disorders. In line with this, we have recently identified novel nucleic acid- and protein-based non-invasive biomarkers in serum and urine EVs for the prediction, early diagnosis and prognosis estimation of CCA, representing a novel tumor-cell derived liquid biopsy strategy. Furthermore, we have been deeply involved in the study of the molecular pathogenesis for CCA, identifying novel pathways involved in cholangiocarcinogenesis, which are amenable to be therapeutically targeted. Our studies provide novel insights in biomarkers and pathogenesis, which may aid the prediction and early diagnosis of CCA, as well as, a more effective treatment, improving the welfare and outcome of patients.

**CICbioGUNE**

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& TECHNOLOGY ALLIANCE

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Basque Foundation for Science

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Atrio 800  
12.00H

