Bibliography:

My research activity has been focused on the study of transcription factors in hormone-dependent tumors. In my master's degree I studied the effects of dietary factors in breast cancer initiation and progression in animal models, activity that I complemented with teaching to medical doctors at Autonomous University of Barcelona. Later, during my PhD at the Vall-Hebron Research Institute of Barcelona, my work focused on understanding the non-genomic actions of Estrogen Receptor (ER) in Prostate cancer. The main interest during my post-doctoral research at Cambridge University was to understand the mechanism of resistance for endocrine treatment in luminal breast tumors. As a continuation of my post-doctoral research, in late 2011, I became group leader at Norwegian Center for Molecular Medicine (hosted at the University of Oslo). In 2019 I joined the Department of Biosciences at the Faculty of Medicine (University of Barcelona) under the 'Ramon y Cajal' program. One year later, I achieved a CSIC position as 'Científico Titular' at the 'Centro de Investigación del Cáncer de Salamanca'. My recent and current research is structured in two comprehensive and often overlapping areas. One area entails chemical systems approaches to: (1) functionally understand how anti-ER drugs perform their repressive effect and (2) identify novel mechanisms by which hormone-resistant cells overcome ER inhibition. Specifically, we are employing a combination of targeted proteomics, drug screenings, highthrouput sequencing. The second area of my research involves in vivo approaches from patient derived xenographs and biopsies from human cancer tumors. With this research I aim to test how drugs used in neoadjuvant clinical trials influence the tumor growth of breast cancer tumors. Moreover, we use computational approaches in neoadjuvant clinical settings combined with molecular approaches that will help to identify treatments that yield better individual patient responses, and these findings will guide personalized therapeutic approaches.