Mapping the polarity protein landscape in cancer

Cell polarity is a vital biological process involved in the building, maintenance and normal functioning of tissues in invertebrates and vertebrates. Molecular defects affecting polarity organization and functions have a strong impact on adult tissue homeostasis and embryonic development, and may directly or indirectly lead to diseases. Genetic studies have demonstrated the role of several polarity genes in cancer progression. However it is still unclear how the polarity protein complexes are organized and regulated. This challenge can be approached using proteomics to characterize the dynamic and the composition of protein complexes in physiological and pathophysiological conditions.

In the past few years our laboratory has demonstrated the importance of the protein complexes associated to Scrib and Prickle1, two scaffold proteins, involved in the Apico-Basal Polarity and Planar Cell Polarity respectively. The aim of this presentation will be to highlight the importance of these two proteins and the role played by their respective associated protein complexes in cancer progression.