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*Talk Title**: Structural cell biology of cilia and intraflagellar transport***

Abstract:
Cilia are ubiquitous organelles of eukaryotic cells that are required for proper embryo development, tissue homeostasis and organ functionality in adults. The Pigino Lab investigates the biology and the 3D molecular structure of ciliary components in their native cellular context and in isolation, to understand how they orchestrate cilia-specific functions. Our work positions itself right at the interface between structural biology and molecular cell biology. Hence, we combine the latest tools and methodologies from both fields, from cryo-electron tomography, over correlative light and fluorescence microscopy (CLEM) and expansion microscopy, to in vitro reconstituted dynamic systems, genetics, biochemistry, all the way to more classical cell biology. Our ultimate goal is to understand the underlying molecular mechanisms of ciliary functions and dysfunctions in human ciliopathies.
In this talk I will focus on our recent discoveries on structure and mechanism of the intraflagellar transport (IFT) machinery and on the molecular architecture and composition of primary cilia in kidney cells.