

**Carmin Settembre** - The main research interest of my laboratory is to understand the regulation and the role of the lysosomal-autophagy pathway in both physiological and disease processes. In particular, keeping in mind that the lysosomal-autophagy pathway is dynamically regulated in response to changes in the extracellular environment, my laboratory is exploring the hypothesis that the developmental regulation of this pathway is an important contributor to organismal development and growth. Using a combination of mouse genetics, cell biology and pharmacological approaches my lab has recently demonstrated that autophagy is induced in growing bones during post-natal development and regulates the secretion of collagens, the major components of cartilage ECM. The post-natal induction of autophagy is mediated by the FGF signaling, demonstrating that growth factor signalling can promote organismal growth through the activation of autophagy. Our studies will have the potential to identify new pathways through which growth factors regulate cellular catabolism, to explain how catabolic processes support anabolic pathways in vivo, and to provide proof of principle that developmental disorders may be treated by modulation of cellular metabolism.