Peinado did his PhD in the laboratory of Dr. Amparo Cano in Madrid (Spain, Instituto de Investigaciones Biomédica "Alberto Sols"), specializing in the analysis of mechanisms involved in epithelial to mesenchymal transition (EMT). He joined Dr. Lyden's lab at Weill Cornell Medical College (USA, New York) as a postdoc in 2008 to study the mechanisms of communication between tumor cells and bone marrow-derived cells during metastatic progression. His work defined that tumor-secreted exosomes educate hematopoietic progenitors toward a pro-angiogenic and pro-metastatic phenotype. He joined the CNIO (Spain, Madrid) in 2015 as head of the Microenvironment and Metastasis group. His current research objectives are focused on understanding the role of exosomes secreted by tumors in communicating with the tumor microenvironment during metastasis and the use of exosomes/small extracellular vesicles in liquid biopsies. He was awarded the 1st ASEICA young investigator award in 2015, Pfizer award 2016, FERO Fellow 2016, Marie Curie-WHRI-Academy Fellow in 2016, I3 Excellence Scientific recognition in 2019, BBVA Leonardo Fellow 2021 and National Prize "doctores Diz Pintado" 2022.