

## **CV summary:**

My scientific career focuses on leveraging immunotherapies to treat malignant brain tumors and pediatric solid tumors. I completed my PhD in 2018 at the Clínica Universidad de Navarra under the supervision of Drs. Ana Patiño and Marta Alonso. My doctoral and early postdoctoral work evaluated new oncolytic adenovirus for pediatric osteosarcoma and pediatric high-grade gliomas, resulted in first-author publications (including *Nature Communications* and *Clinical Cancer Research*). But more importantly, the preclinical data generated during my PhD supported the launch of the first clinical trial evaluating the oncolytic adenovirus Delta-24-RGD in pediatric patients with diffuse midline glioma (*The New England Journal of Medicine*).

The AACR–AstraZeneca Immuno-oncology Research Fellowship supported my work developing an oncolytic virus engineered to deliver an immunostimulatory payload to enhance anti-tumor efficacy (*Mol. Cancer Ther*). In 2020, building on this experience harnessing the immune system against cancer, I became increasingly interested in T-cell–based therapies and joined the laboratory of Dr. Crystal Mackall at Stanford University, a pioneering group in next-generation cell therapies for pediatric and high-grade brain tumors.

At Stanford, I study how interactions between CAR-T cells and the tumor microenvironment (TME) drive therapeutic failure in solid tumors, and I established the preclinical models needed to interrogate these mechanisms. My current work dissects how intrinsic CAR-T engineering strategies differentially remodel the tumor immune microenvironment in pediatric solid tumors.

To enable clinically relevant testing platforms, I collaborate with Dr. Calvin Kuo's lab to develop advanced 3D tumor immune organoid systems, highlighting patient-derived tumor immune organoids as a powerful approach to model immune–tumor interactions and predict responses to immunotherapies. In July 2025, I received the Kite–Gilead Early Career Award in Cell Therapy Research, supporting my transition toward independence and my current role as a Faculty Instructor at Stanford University.