

Giada De Lazzari

Project title: Patient-derived intestinal 3D model for studying rare disorders: the Tricho-Hepato-Enteric Syndrome paradigm (TH3S)

Duration	6 months
Short Bio	I hold a 2018 Master's degree in Biomedical Science, focusing on the thesis "Inhibition of JAK2/STAT3 axis leads to apoptosis of Chronic Lymphocytic Leukemia neoplastic clone." Following six months at the Institute of Pediatric Research in Padova, exploring extracellular vesicles role in neuroblastoma as post-graduate researcher, I pursued a PhD at the University of Padova. In this program, centered on "Development of ex-vivo culture methods for Extracellular Vesicles testing," I gained expertise in assessing immunomodulatory effects in Inflammatory Bowel Disease (IBD) and Trico-hepato-enteric syndrome (THES). As part of the PhD project, I moved in France and thanks to the collaboration with Prof. Vergnolle's group, we successfully developed patient-derived organoids, providing innovative ex-vivo translational models to study THES and IBD mechanisms.
Home Institution	University of Padova
Host institution	Digestive Health Research Institute, INSERM U1220, Toulouse
Project description	Trico-hepato-enteric syndrome (THES) is a rare bowel disorder characterized by severe symptoms. Caused by mutations in TTC37 and SKI2VL genes, THES is considered a monogenic cause of inflammatory bowel disease (IBD). My project aimed to develop a personalized 3D <i>in-vitro</i> model from patient biopsies to uncover THES mechanisms, offering insights into TTC37 deficiency and shared pathways in inflammation development, thanks to the collaboration with Prof. Vergnolle's group (INSERM). This innovative ex-vivo translational model will enhance our understanding of rare diseases like THES, with broader implications for studying other rare pathologies.

**Personal
statement**

Thanks to this collaboration, I had a unique opportunity to work in an international team expert in organoid production. This experience significantly enriched my scientific background, providing valuable insights into the development of innovative ex-vivo translational models. This opportunity allowed me to move back to Italy and being employed as a post-doctoral researcher at the Candiolo Cancer Institute focusing on studying Ovarian Cancer mechanisms through the development of novel preclinical models, including organoids.