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PROJECTS FUNDED AT THE UNIVERSITY OF PADUA

SPOTTED - MicroScale system integrating Patient-specific cancer Organoids in a 3D Tumor microenvironment for Therapy rEsponse prediction

Cancer remains one of the leading causes of death worldwide, with cases expected to rise significantly by 2050. While modern medicine has made great strides in early detection and treatment, there is still an urgent need for more precise, personalized therapies. The future of cancer care lies in personalized medicine, which tailors treatments to the individual patient. However, current lab models struggle to accurately replicate the complexity of real tumors, making it difficult to predict how treatments will work. The SPOTTED project aims to change this paradigm by developing advanced patient-specific models using a cutting-edge microfluidic platform. By using small lab-grown tumor replicas derived from real patient tissues, SPOTTED creates a highly realistic 3D model of pancreatic cancer, one of the deadliest forms of the disease. This model not only mimics the tumor's environment but also incorporates key components such as immune and supportive cells, enabling more accurate drug testing. With its ability to recreate the conditions inside the human body, SPOTTED offers a powerful tool for testing treatments in a controlled setting, helping medical doctors choose the best therapies for each patient. This breakthrough approach could bridge the gap between research and real-world medicine, paving the way for more effective, customized cancer treatments that bring hope to millions.

ERC Grantee: Elisa Cimetta

Department: Department of Industrial Engineering

Coordinator: Università degli Studi di Padova

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Find out more: <https://cordis.europa.eu/project/id/101213265>