### TRANSCAN-3 JTC2021 International Networking Event



Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir



# Devrim Pesen Okvur Izmir Institute of Technology devrimpesen@iyte.edu.tr



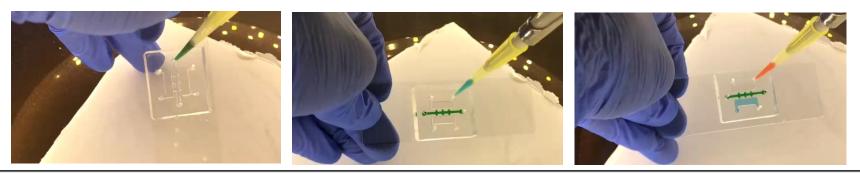




## **Description of the Organization**



- Izmir Institute of Technology (IZTECH)
  - a Turkish state university (1992+)
  - higher education and research
  - the only internationally distinguished advanced technical university in Turkey
  - 370 ongoing research projects
- Controlled in vitro Microenvironments Laboratory (CivM Lab)
  - 4 ongoing research projects, 8 completed projects (FP7 Marie Curie IRG, TUBITAK research / industry) (2010+)









## **Description of your research interest**



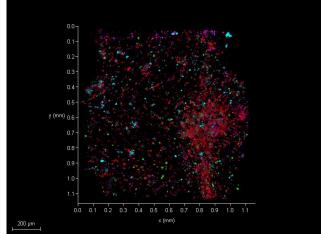
- Team
  - Current: 1 Postdoc, 3 Graduate students, 5 Undergraduate students
  - Alumni: 11 Graduate students, 15 Undergraduate students
  - Collaborations: IZTECH, iBG, HACETTEPE, ISTINYE, MEDIPOL
- Topics
  - Design and fabrication of organ-on-a-chip devices that mimic the tumor microenvironment

Breast

Biophysical and **microenvironmental** control of the metastatic process in breast cancer

Liver

- Start-up company INITIO
- Patents (1 US patent granted)







Day

Day 3



## Project Idea "Metastasis-on-chip: Role of TME"

Aim 1: Identification and validation of tumour microenvironment (TME) subclasses and their contribution to the resistance mechanisms

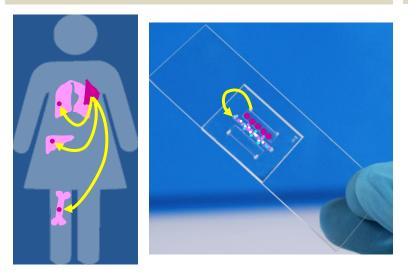
**1.1** Dissection of tumour cells/tumour-infiltrating immune/stromal cells and identification of TME subclasses

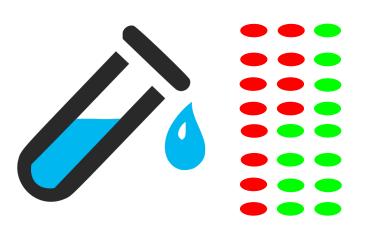
#### Aim 2: Targeting TME to improve efficacy of immunotherapy in human patients.

**2.1** Development of new precision therapeutic strategies that may prevent human tumour recurrence or resistance

**2.2** Evaluation in translational studies of the impact of TME on treatment efficacy and patient outcome

#### WP 1- Organ-on-chip





**WP 3-** Drug discovery/delivery

WP 2- Patient sample / Clinical Trials

WP 4- Omics







## Consortium - profile of known partners (if any)



No	Partner Name	Туре	Country	Role in the Project
01		RTD/SME	Turkey	Organ-on-chip
02				Patient samples (solid, liquid, organoid)
03				Clinical trials
04				Immunology
05				Drug discovery/delivery
06				Omics
07				Spectroscopy
08				Image analysis (3D)





## **Consortium - required partners**

AND TECHNOLOGY



TÜBİTAK

6

No	Partner Name	Туре	Country	Role in the Project
01		RTD/SME -	Furkey	Organ-on-chip
02				Patient samples (solid, liquid, organoid)
03				Clinical trials
04				Immunology
05				Drug discovery/delivery
06				Omics
07				Spectroscopy
08	MINISTRY OF INDUSTRY			Image analysis (3D)
			COMPETING	▼ 6

COMMENTIVE SECTORS HOCEANINE





## Devrim Pesen Okvur Izmir Institute of Technology Molecular Biology and Genetics TURKEY devrimpesen@iyte.edu.tr https://en.iyte.edu.tr/ https://initiocell.com/





