HORUS PROJECT

Human Nanoporous Tumoroids/organoids in Space

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RECKONECT

SPACE PHARMA

CSUG

tech

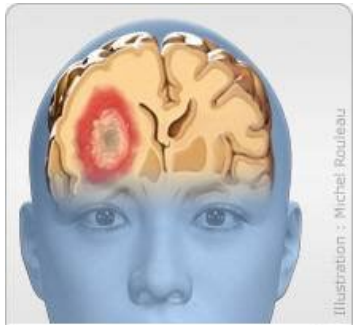
MEDES

esa

RATIONALE AND SERENPIDITY !

Earth
Gravity

- Hyper gravity/solid stress: a major neglected pathology driver
- Major medico-economic needs for brain pathologies (800 B€)
- Tumoroid and personalized medicine not translated at the bedside, no industrial integrated product



- A major bottleneck for safe long-term spaceflights
- Innovative and robust technologies developed for cell biology (space pharma)

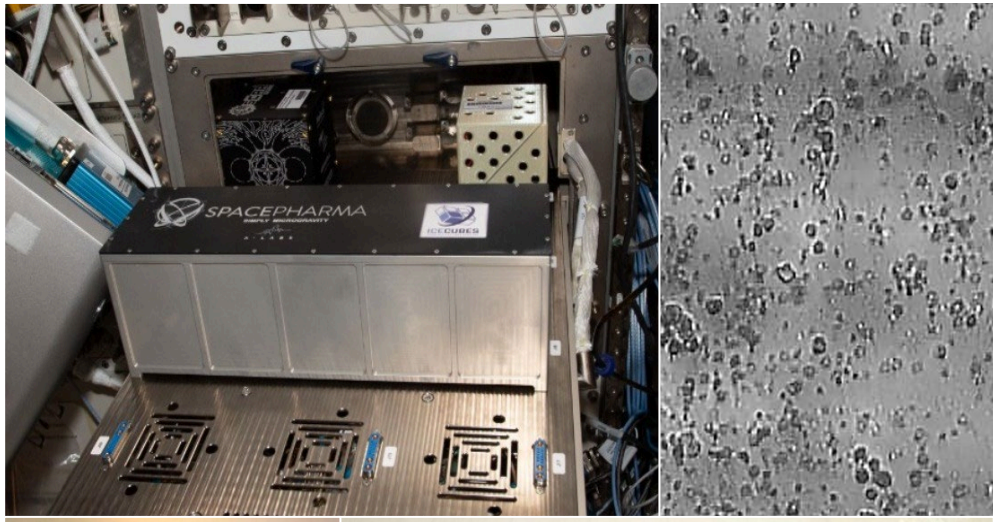
“Hyper-Gravity Pathologies”

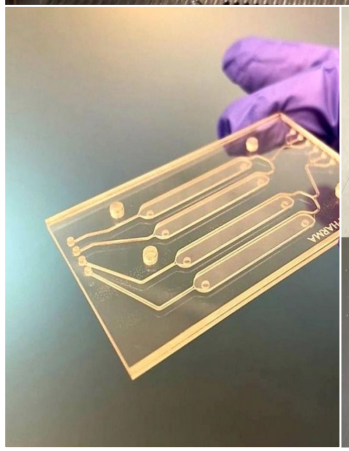
“Space Hypo-Gravity Pathologies”

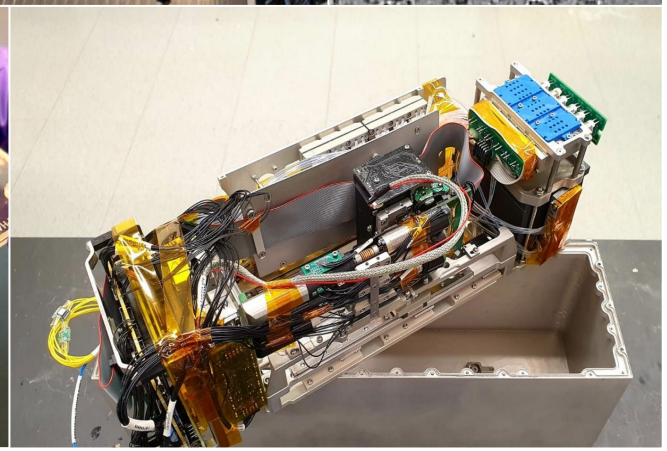
KEY TECHNOLOGIES

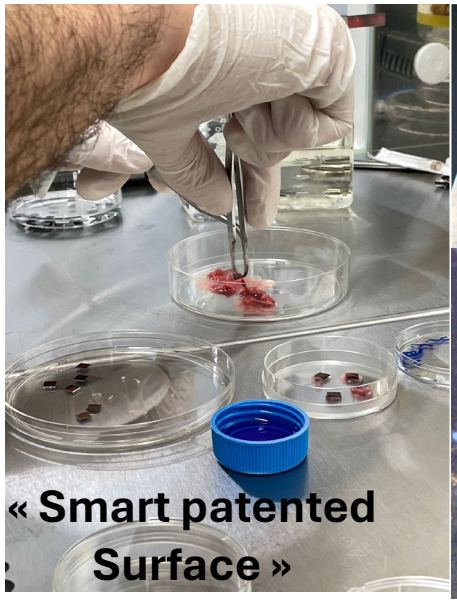
SPACE PHARMA

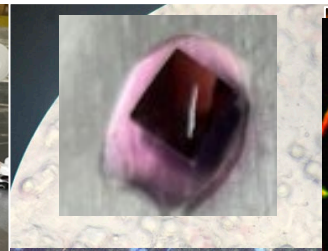
Space mini-Lab

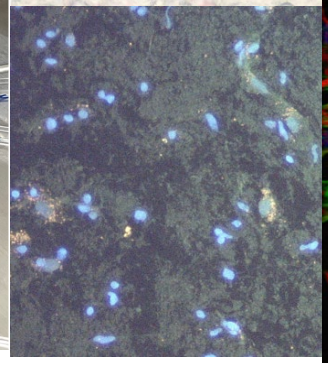


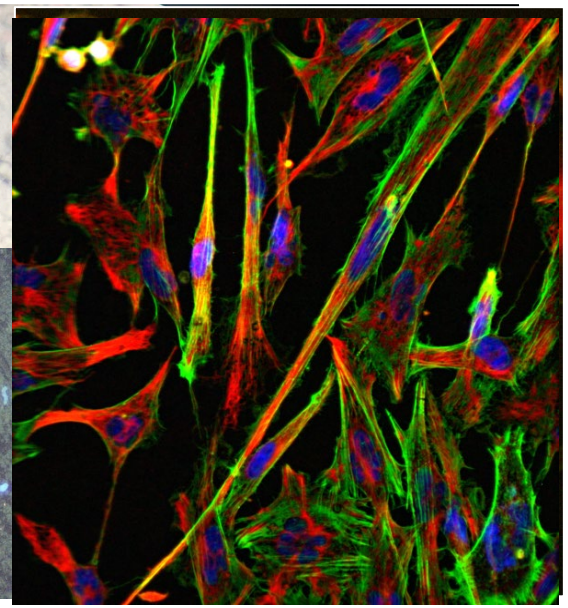












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Spatial Tumoroid Avatar

« Digital avatar »

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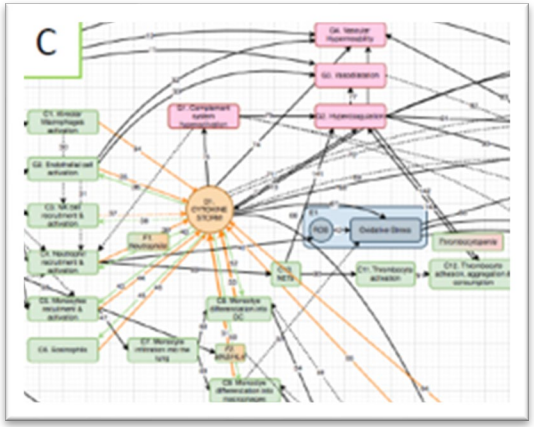
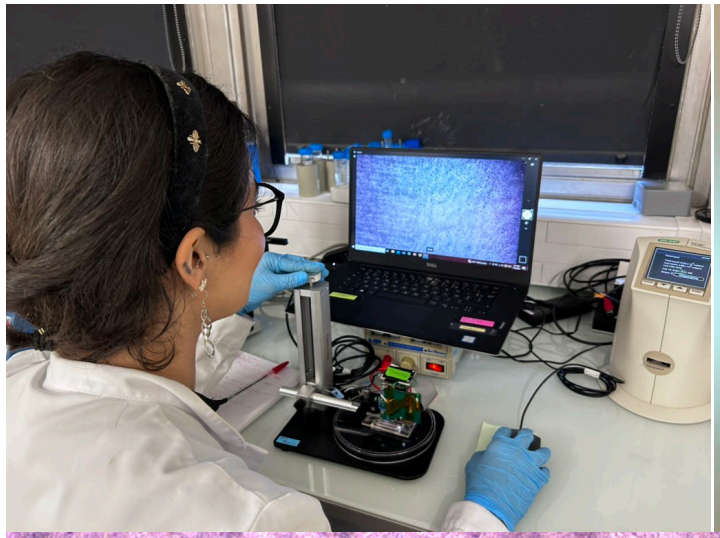
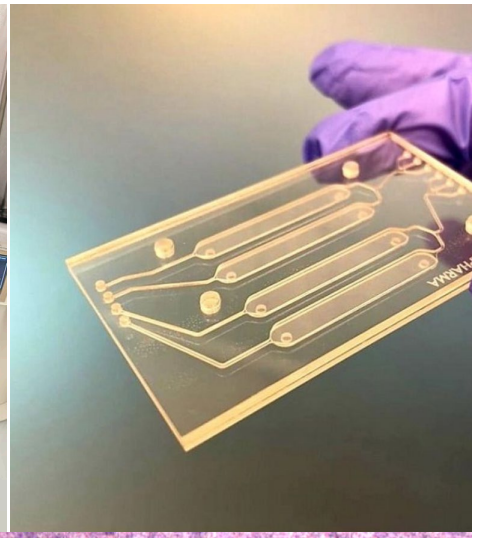
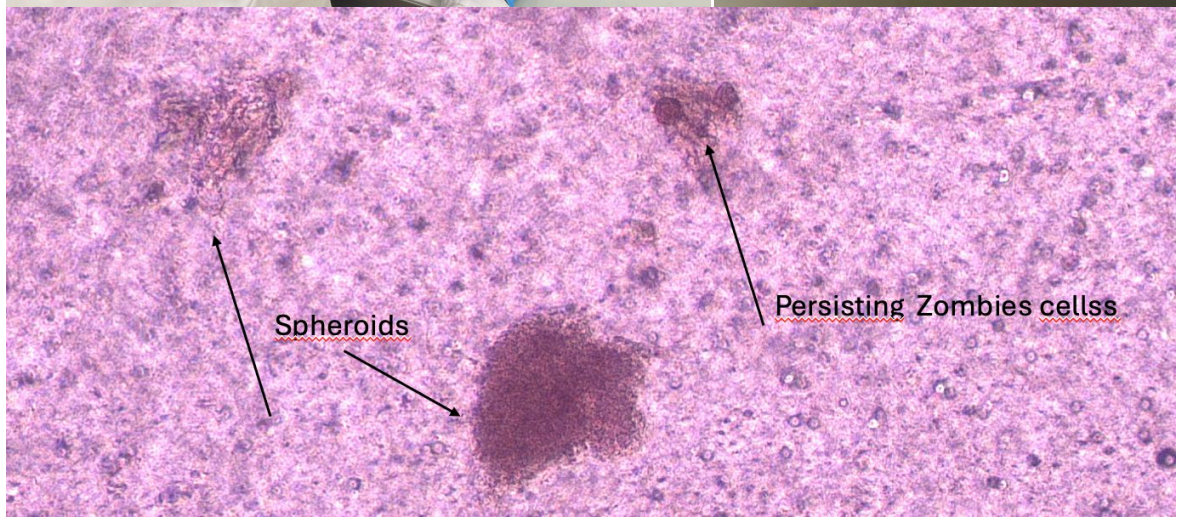


- **A strategy to make possible at the bedside next generation personalized medicine**

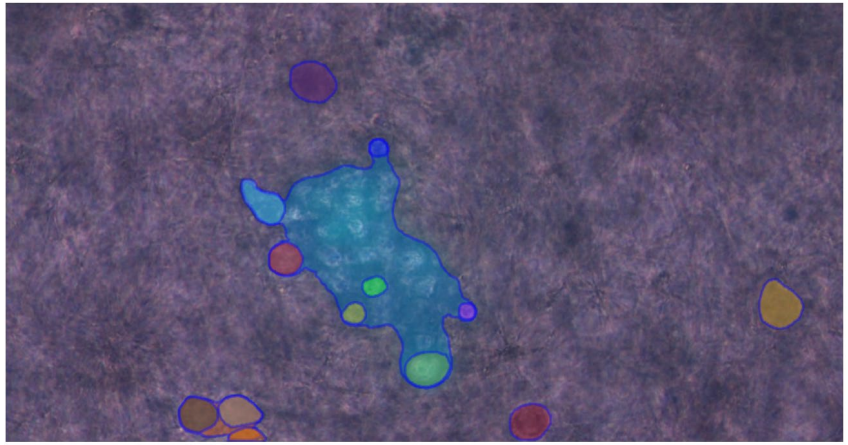
GATE ONE INTEGRATION SUCCESSFUL

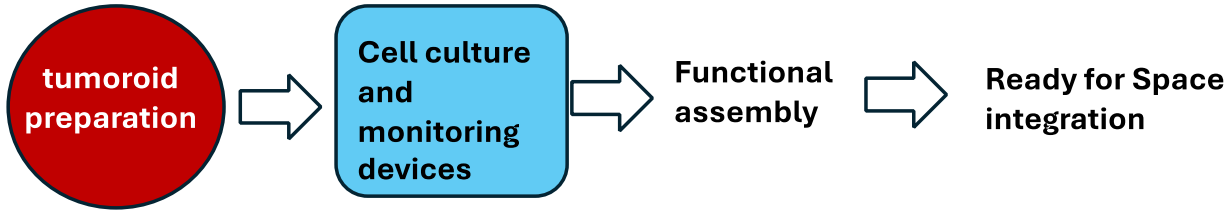






- Integration of tumoroids in SpacePharma device
- Cell culture and tumoroids validation
- Phenotype detection with drugs
- First image analysis
- Functional protocol from the surgery room to the space

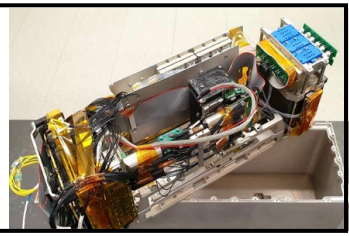




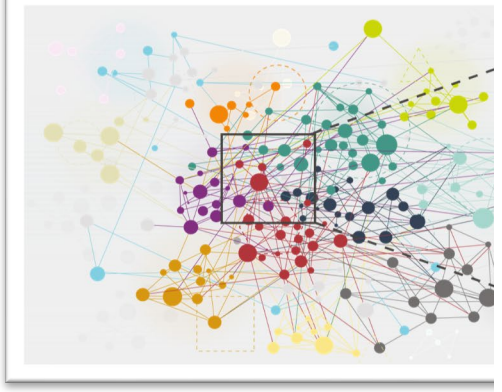
OBJECTIVES AND PRODUCTS

- Does tumoroid space microgravity reprogramming induces a vaccinal anti-tumor effect ?
- Moving space mini-lab in the surgery room to disseminate tumoroid at the bedside in every day medicine
- Use this integrated technology to validate targets and repositioned drugs to combat microgravity impact/Brain Tumors

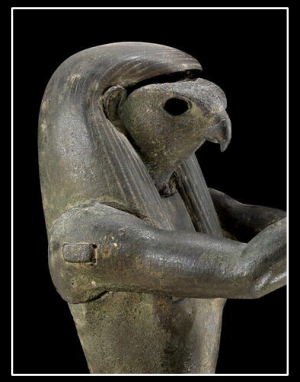
Personal tumoroid Avatar mini-lab



Next-Generation Personalized medicine

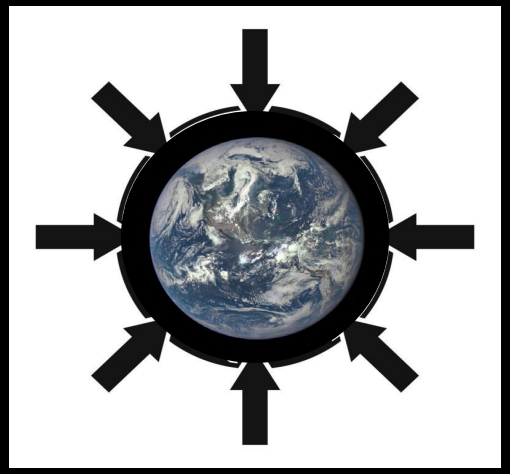


Digital avatar and IA driven target Extraction/drugs repositioning Tools



Space technologies: a major source of inspiration for biomedical research !

Moving idea and mythology to reality , solving major biomedical bottelnecks , making possible long duration flights



Innovative therapies for brain diseases

Innovative approaches for Gravity impact modulation