PINKCC CHALLENGE 2025

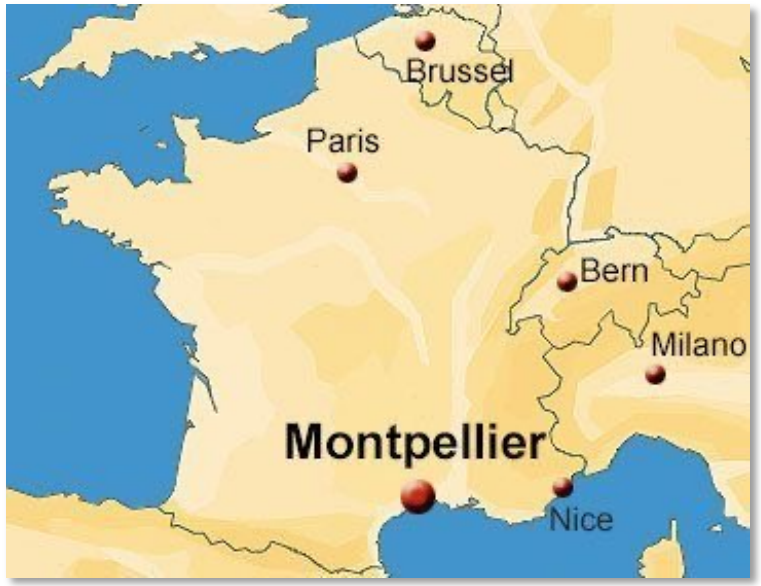
KICKOFF WEBINAR

About Montpellier Cancer Institute

The Montpellier Cancer Institute (ICM) is a leading **Comprehensive Cancer Center**, a member of **Unicancer**, bringing together:

- A hospital with an **integrated supportive care department**
- The **Montpellier Cancer Research Institute (IRCM)**
- A **prevention department, Epidaure**

This unique structure ensures seamless continuity between **patient care, fundamental research, applied research, and social sciences research.**



About Us

Precision Imaging as a New Key in Cancer Care

In 2022, **Professor Stéphanie Nougaret**, radiologist at **ICM** and co-leader of **SIRIC Montpellier Cancer's PRIORITY Program**, founded the **PINKCC Lab** at the **Montpellier Cancer Research Institute (IRCM)**.

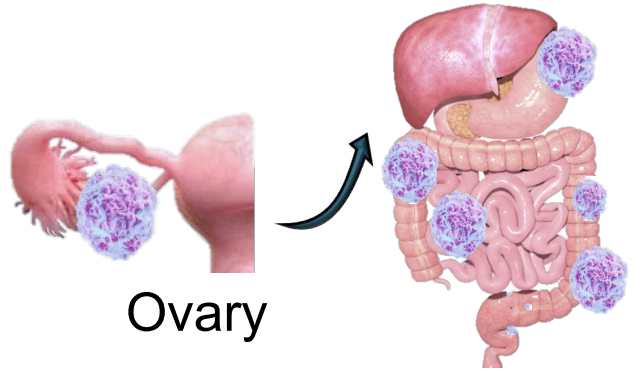
The team focuses on **AI-driven precision imaging** to create **virtual cancer biopsies** and develop models to **optimize radiotherapy treatments**.

SIRIC MONTPELLIER CANCER
Site de Recherche Intégrée sur le Cancer

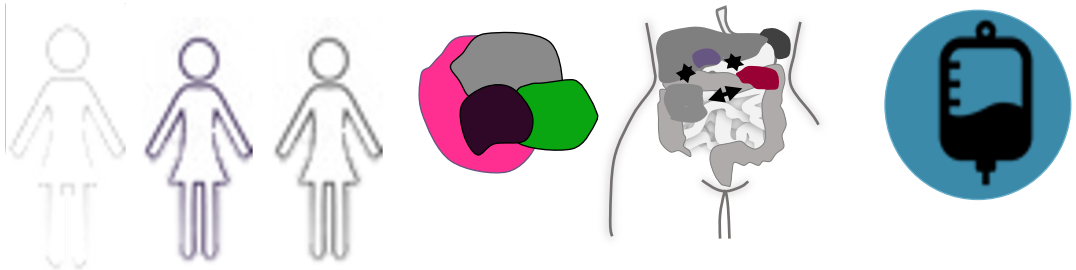
The **Montpellier Cancer Integrated Cancer Research Site (SIRIC)**, accredited by the **National Cancer Institute**, brings together a community of **clinical and multidisciplinary researchers** dedicated to advancing the understanding, prevention, and treatment of cancer.

Ovarian Cancer with Peritoneal Carcinomatosis

- Most lethal gynecological cancer: 250,000 new cases – 184,000 deaths , 50% survival: 1 death/2min
- Slow progress in improving survival rates
- Highest rates in Europe with 55% predicted increase in incidence by 2035



Highly Heterogeneous Cancer



Patient **Space** **Time**

High Volume of disease

SINGLE SITE BIOPSY - SINGLE TIME POINT

Limited value

MULTIPLE BIOPSIES - MULTIPLE TIME POINTS

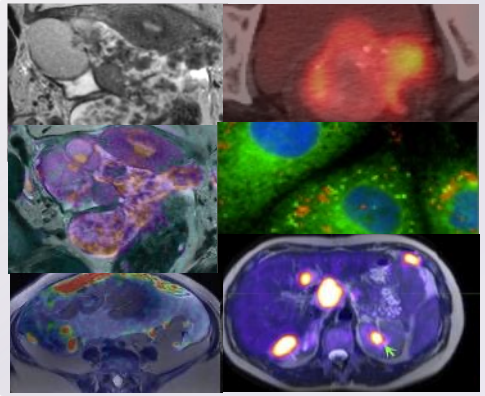
Invasive- Impractical

Treatment challenge

TROUGHOUT THE CANCER JOURNEY

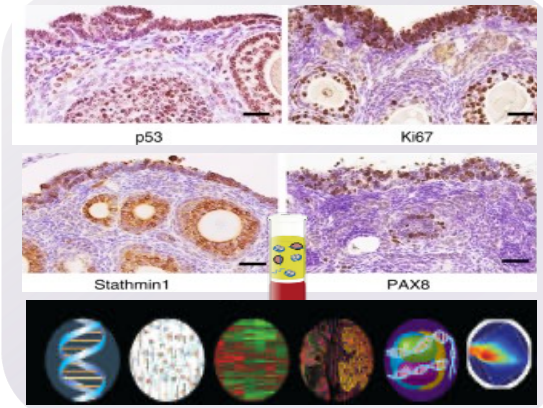
01

IMAGING



02

BIOPSY



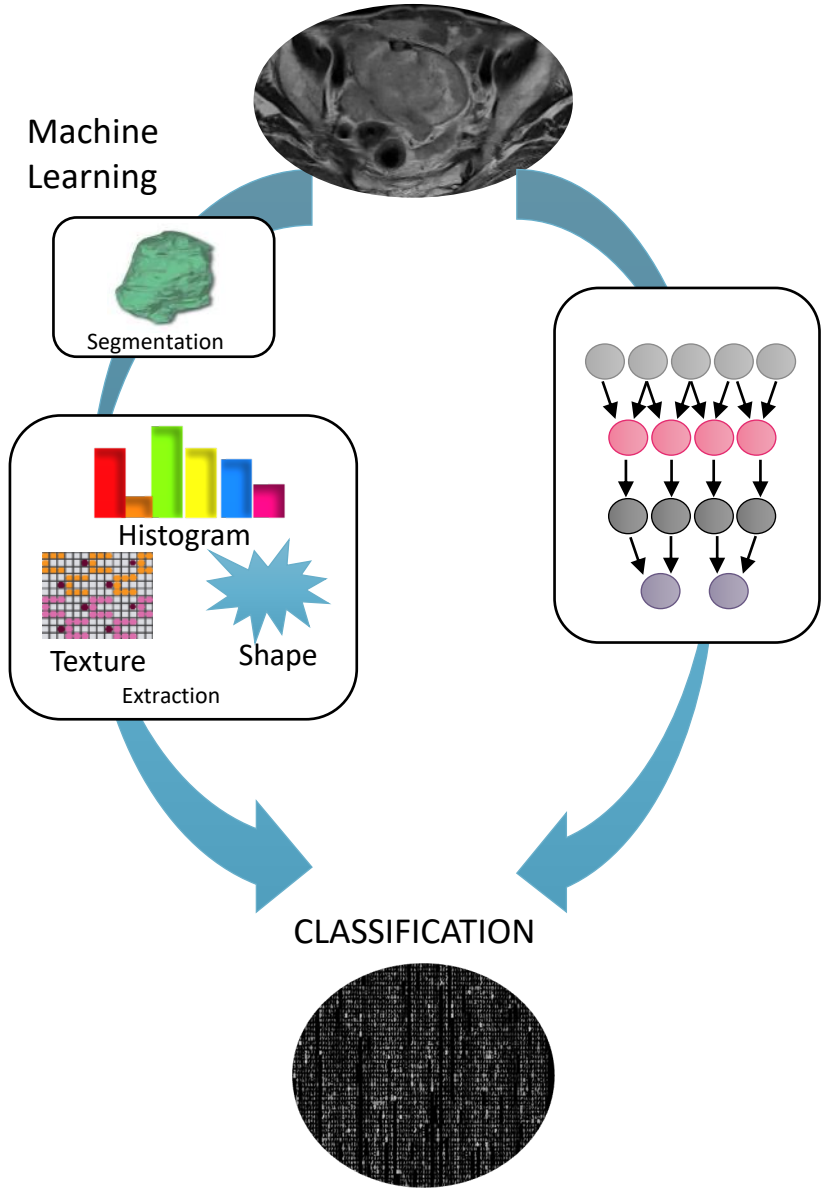
03

DIAGNOSIS

04

TREATMENT

Cancer Imaging : Images are quantitative data



PINKCC Challenge

Your Challenge: Create a cutting-edge segmentation algorithm that could transform ovarian cancer research!

PINKCC Challenge: online competition

250
Participants

43
Teams

+30%
International participants

Discord

💬 **Join Our Discord!**

https://discord.gg/6aWQjWaz

PINKCC Challenge: our partners

We will soon share details about the entire academic jury and our partners, but here's a brief overview...

Stéphanie Nougaret
ICM (France)

Christopher Bridge
Harvard Medical School (USA)

Hugues Talbot
Centrale Supélec (France)

Anne Laurent
ISDM (France)

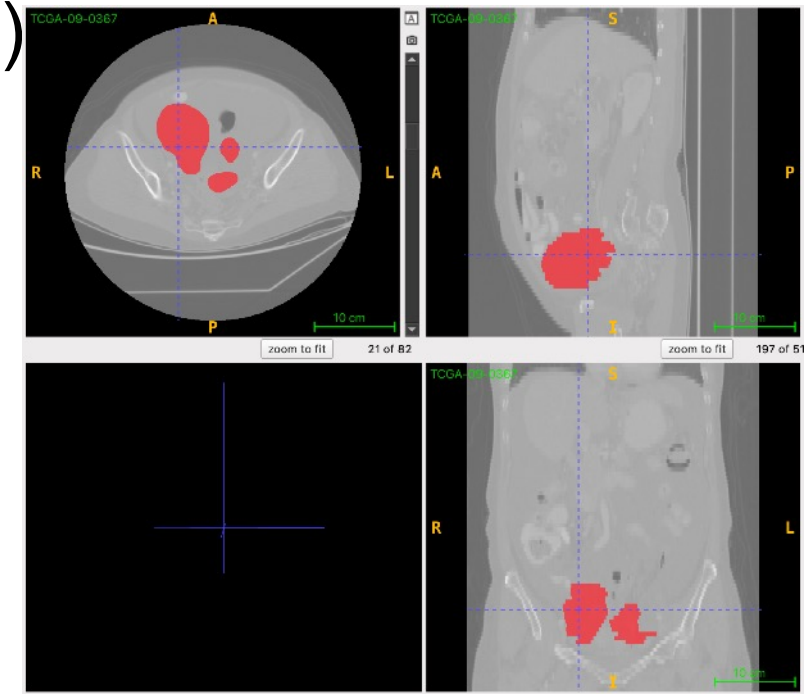
More to come soon!

Technical details: Data

Memorial Sloan Kettering Cancer Center

THE CANCER GENOME ATLAS

- 250 annotated CT scans
- 3 labels (background, primary tumor, metastases)
- NIFTI format
- Total size: 6 GB
- From 2 open-source datasets
- Available on Filesender



- Possible to use open-source data and models
- Not possible to use private data

Technical details: Computing resources

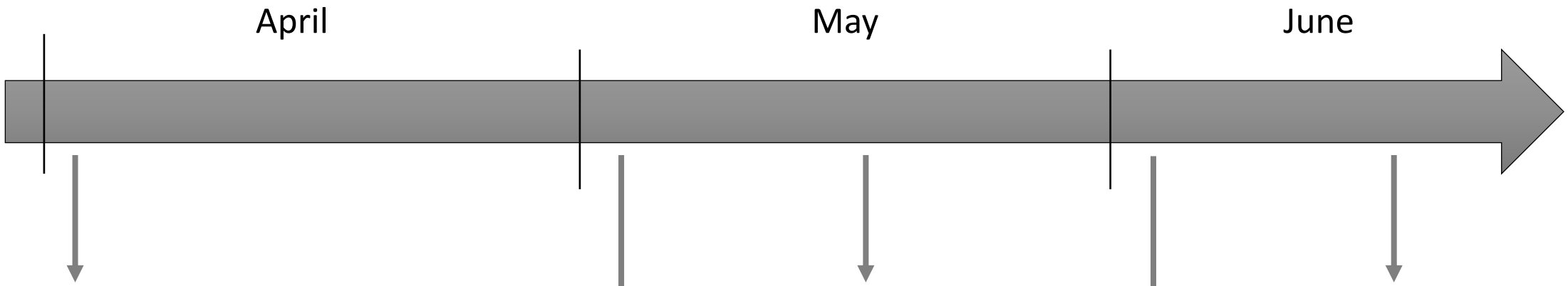
- Possible to train on your GPUs

- ISDM graciously provides access to their HPC infrastructure with A100 GPUs
- One GPU leader (personal account)
- More info at https://meso-lr.umontpellier.fr

- Next steps:
  - Sign the chart
  - Account creation, rules for GPU sharing
  - Connect and train!

Timeline

About the « Grande Finale » in Montpellier: we will share more details in a dedicated webinar later



April 1st
Data challenge start
Training set released

May 5
First test set released
Task: return segmented maps for May 12

May 15
New training set released
Invitations to June event
(~50 participants)

1st week of June
Final test set released
Task: return segmented maps

June 13
Final event on site
Results online

Deliverable: Predicted segmentation maps

Evaluation

- To send: Predicted segmentation maps
- Nii.gz format, similar to the training set labels
- Upload on professional or personal Drive and send to max.dudognon@gmail.com, jonathan.dong@epfl.ch, et stephanie.nougaret@icm.unicancer.fr
- Single submission by team

- **Evaluation metrics: dilated Dice score, precision/recall, Dice score**
- Key dates of first phase:
  - May 5: Test set released
  - May 12: Deadline for submissions
  - May 15: Results

Grand finale

- June 13: on-site event in Montpellier
- Full day with lab visits, conference, prizes
- More info coming soon

- Sponsored invitations based on mid-term results
- If you are not selected but would like to continue, it is possible! (especially for students)
- In any case, possible to join the leaderboard

Any question?

- Technical support on Discord
- Technical team:
  - Maxime Dudognon
  - Charles Berger
  - Gladis Valenzuela
  - Jonathan Dong
- Do not hesitate to reach out!
- We can answer questions, while preserving equity between teams