

Théo Perochon - PhD candidate

Multimodal data integration in oncology



Immucan



2600 patients - 5 cancers - 12 cohorts

Breast

Lung

CRC

H&N

RCC

Multimodal data

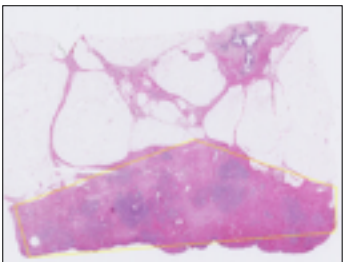
Clinical data



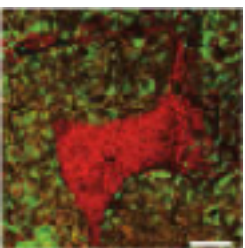
1 sample



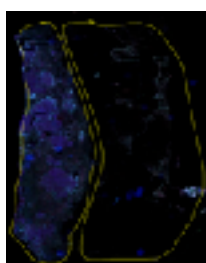
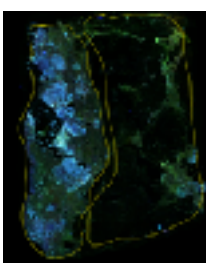
H&E



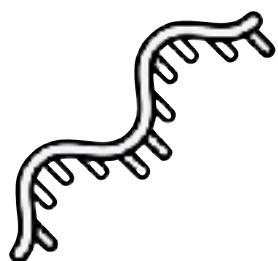
IMC



mIF



Bulk RNA-seq



WES

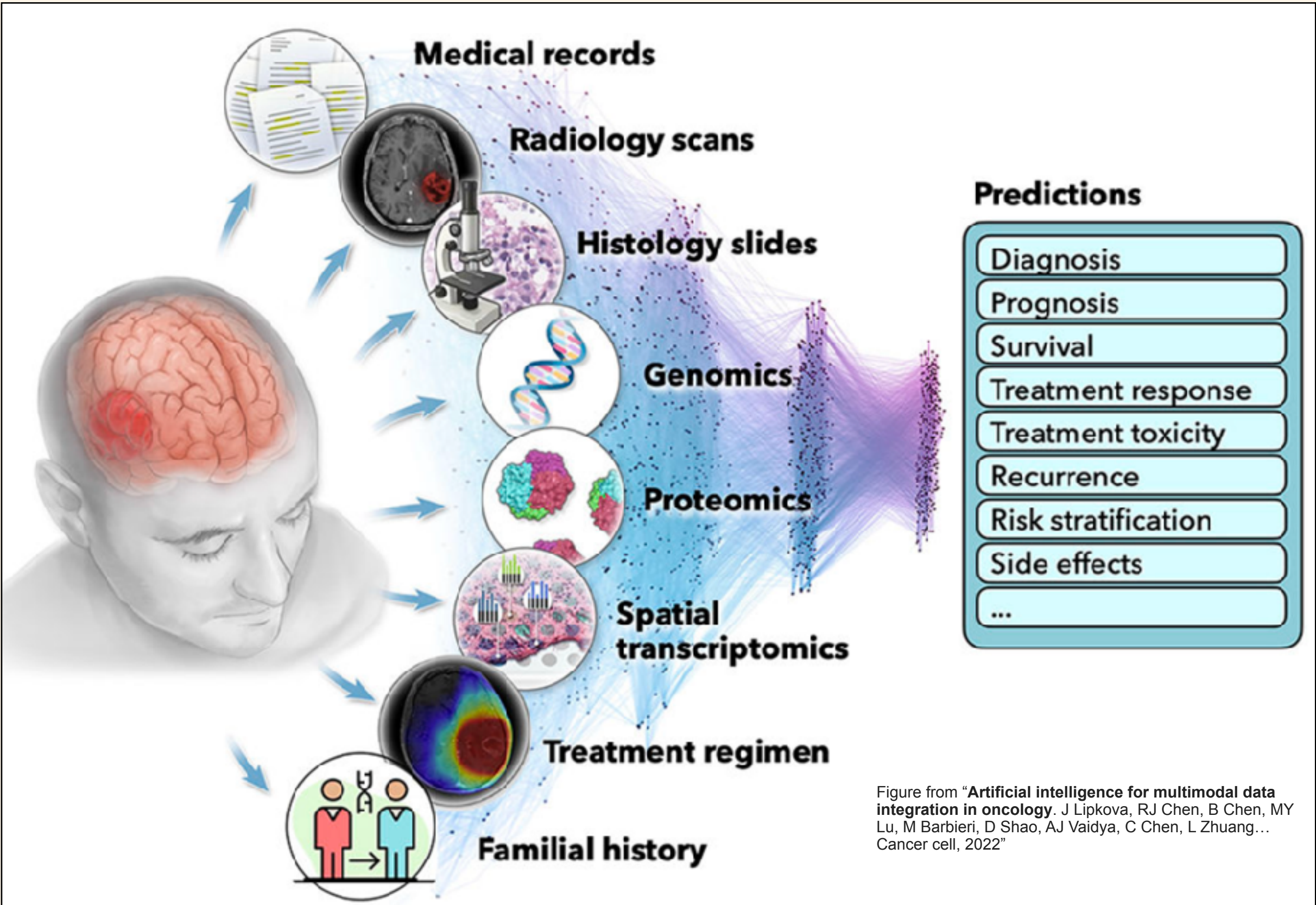
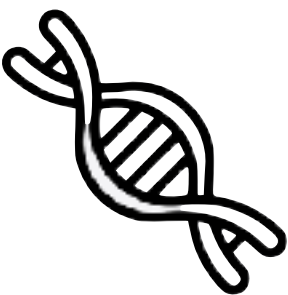
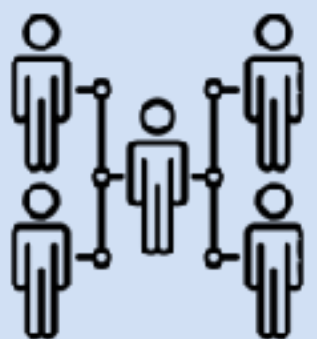


Figure from "Artificial intelligence for multimodal data integration in oncology. J Lipkova, RJ Chen, B Chen, MY Lu, M Barbieri, D Shao, AJ Vaidya, C Chen, L Zhuang... Cancer cell, 2022"

Sanofi

- Jing Liu - MD - PhD
- Matteo Cesaroni - PhD

Supervisors



IBISC

- Vincent Vigneron - HdR
- Guillaume Hutzler - PhD

Old time



Old time



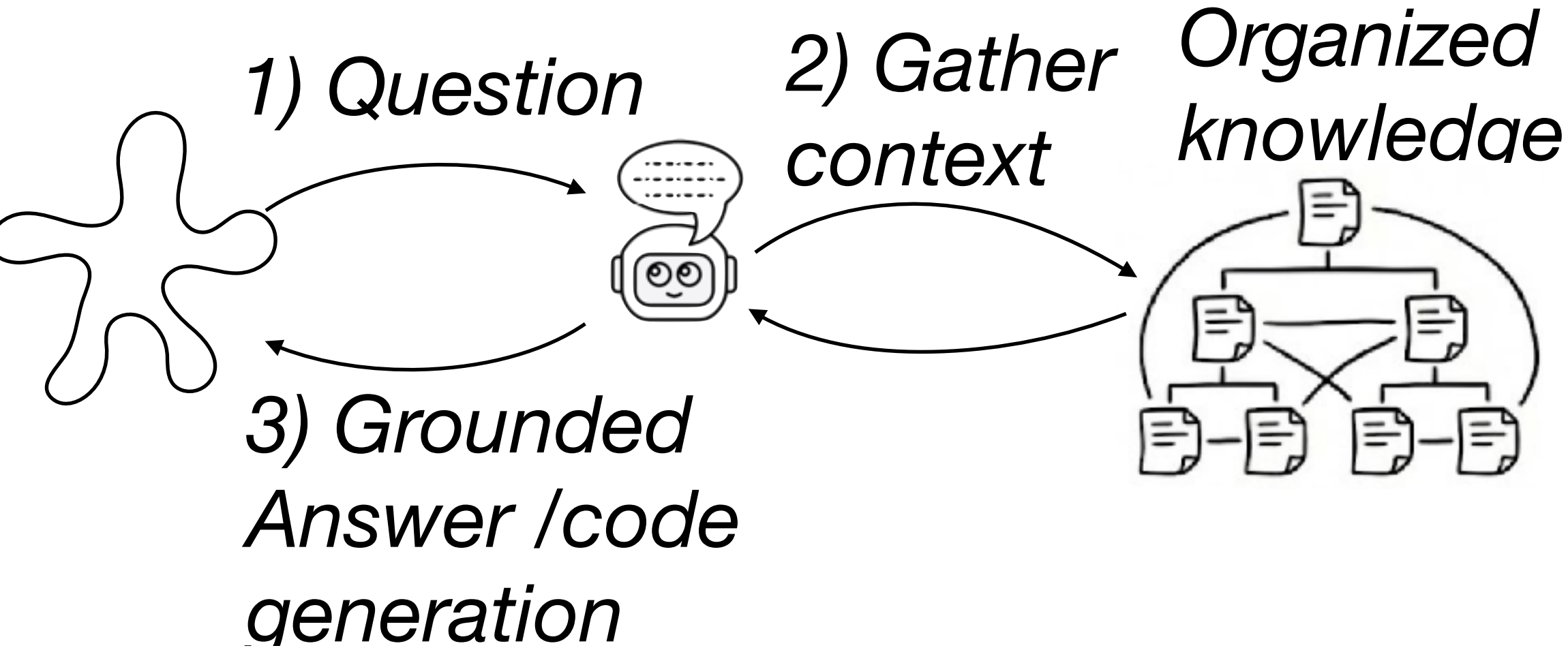
***Now with my agentic
crew***



Powering agents with context

Working with agents paradigm

Corpus-based reasoning



Organized knowledge accessible by agents

Contextual information

- a) Immucan project description
- b) PhD description and objectives
- c) Dataset specification
- d) Current codebase state

Scientific articles

- a) Multimodal integration corpus - 142 articles + GitHub repos
- b) IA-ML corpus - 132 articles + GitHub repos
- c) Biology - oncology - 49 articles

Enriched corpus

- a) Meta analysis papers relationships and idea lineages
- b) Codebase hyperparameter atlas
- c) Code Cookbook

Let's listen the agents !

