



## Medical Challenge

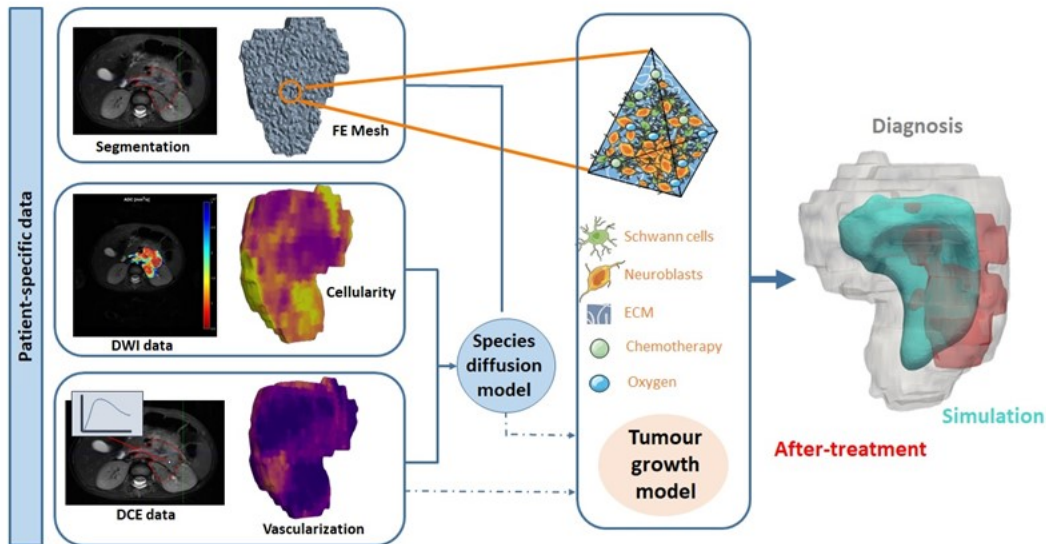
- Optimising the management of cancer disease
- Enabling **personalized, more accurate** diagnosis, prognosis and **effective** targeted treatments
- **Predict** for each patient prognosis under untreated conditions and/or under the action of **multiple treatments**

## In Silico Solution

- **Multiscale continuum model** of tumour growth/degrowth obtained from **patient-specific data** (tumour geometry, cellularity, vascularization)
- Model interactions of chemotherapy agent with tumour
- Tumour volume prediction is more than **90%** accurate.

## Policy Relevance

- Improve malignant solid tumours **disease management**
- Generation of **prognosis predictors**
- Reduced **time to market** without compromising with **patient safety**
- Facilitate the emergence and **efficacy** of **personalized** treatment



“A digital twin of a cancer tumour enables to predict the likely evolution the pathology for the patient. It is expected to predict the impact of specific chemotherapy agents on the tumour making it an essential tool to optimize the treatment to the specific patient.”

**María Angeles Pérez Anson, Professor**  
University of Zaragoza, Spain