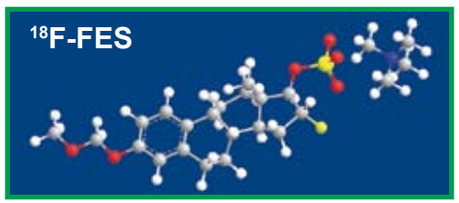
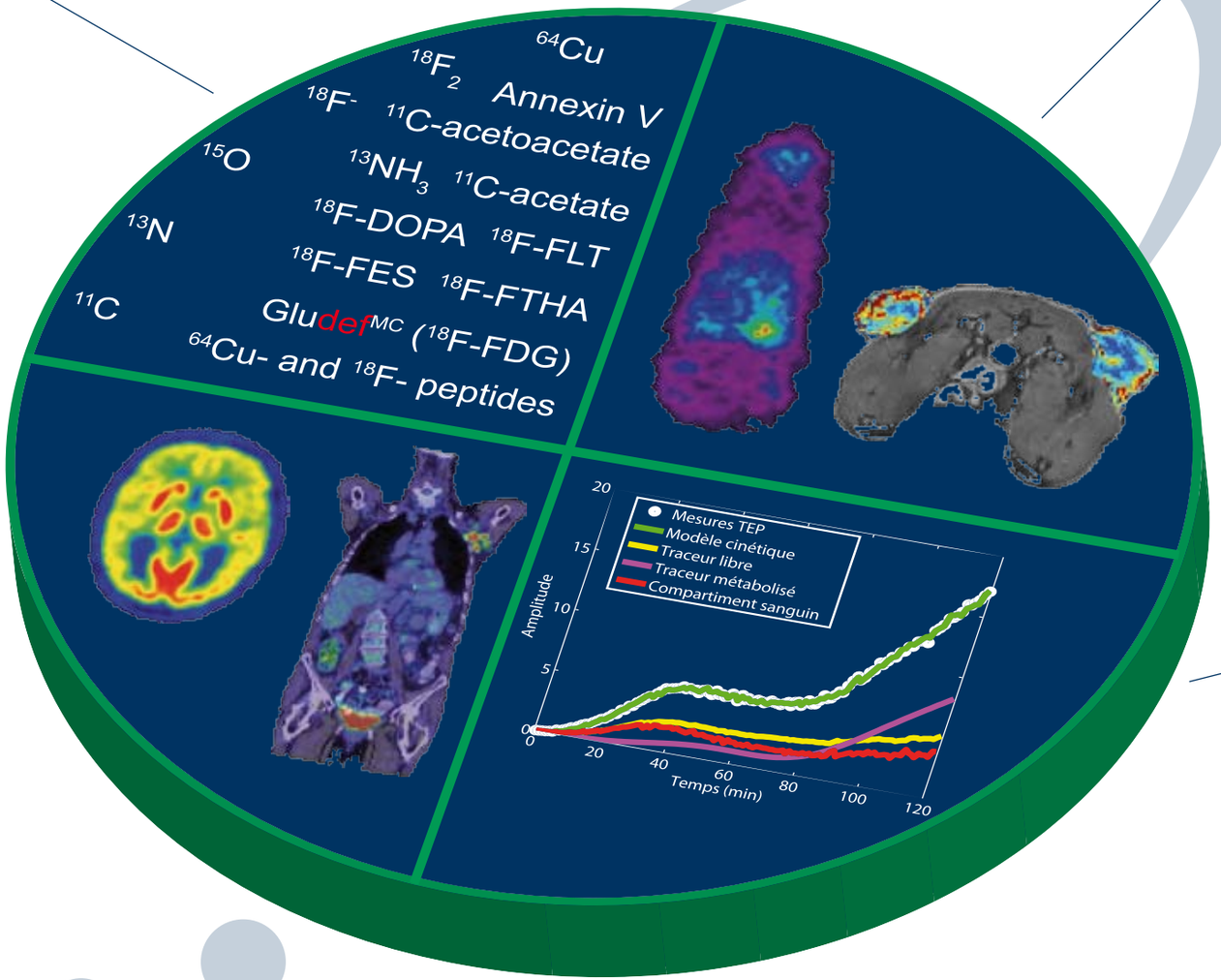
Radiochemistry

- Design
- Synthesis
- Development
- Production of radioisotopes



Clinical imaging

- Diagnostic imaging
- Oncology, cardiology and neurology
- Evaluation of novel radiotracers
- Biodistribution and dosimetry
- Evaluation of metabolism
- Receptor imaging
- Perfusion and myocardial viability
- Evaluation of treatment response
- Image fusion (PET, SPECT, CT, MRI)
- Blood flow, distribution kinetics



Preclinical imaging

Positron emission tomography

- Metabolism
- Biodistribution
- Apoptosis
- Receptor imaging
- Real-time therapy evaluation

Magnetic resonance imaging

- Dynamic contrast-enhanced MRI (DCE-MRI)
- Pharmacological imaging
- Monitoring of treatment response
- High-resolution imaging
- Vascular permeability
- Contrast agent development

Pharmacokinetic modeling

- Development in PET and MRI
- Quantitative imaging
- Physiological parametrisation
- Applications:
  - Cancerology
  - Cardiology
  - Photodynamic therapy