

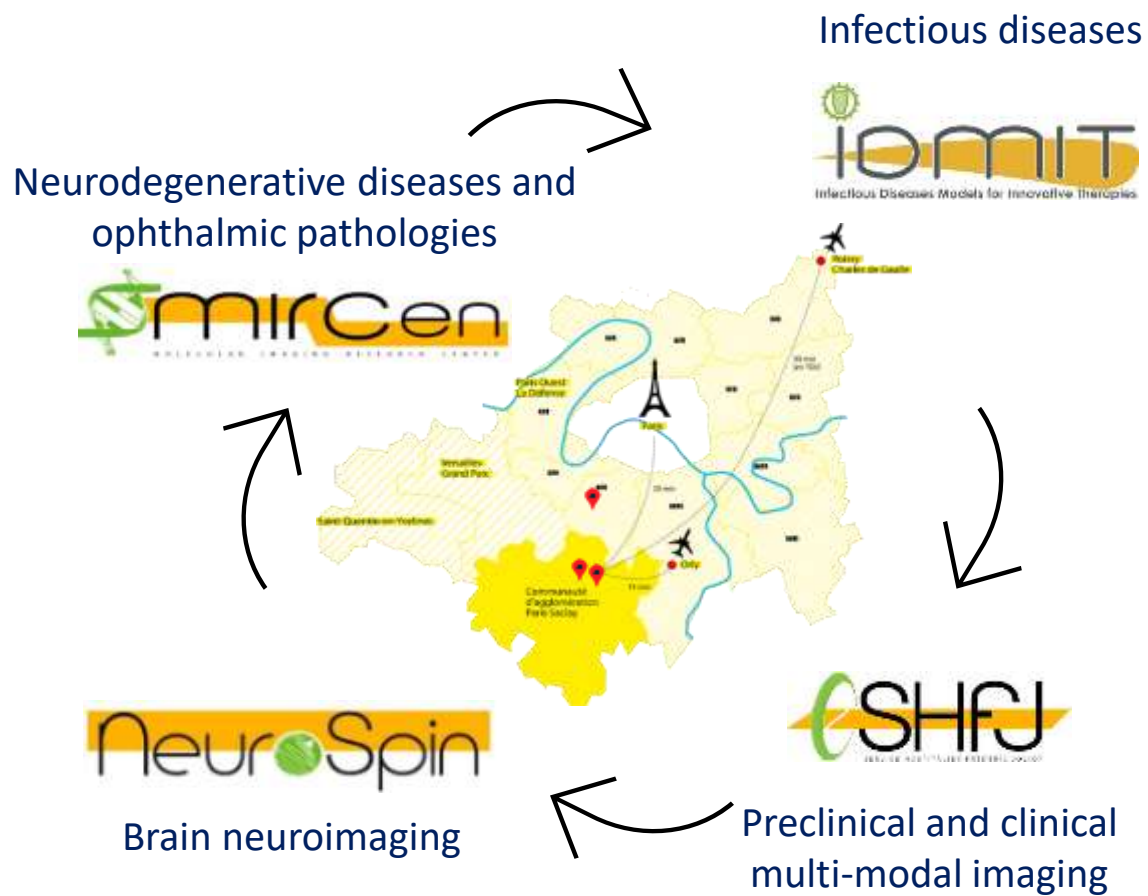


In vivo imaging to de-risk your medical innovations

AG Hub PASREL



Ali AÏT-IKHLEF - Chargé des partenariats



- Unique in vivo imaging platforms and expertise: MRI, PET, ultrasound, optical and hybrid imaging

- From POC in animal to drug development in patients

Radiotracers

- ✓ 3 cyclotrons: ^{11}C , ^{18}F , ^{15}O , ^{68}Ga
- ✓ Access to ^{89}Zr , ^{177}Lu and ^{64}Cu
- ✓ Labelling of small and large molecule

**PET**

Dedicated animal
PET Scanners (brain
& whole body)

**Multimodal Imaging**

PET-CT / PET-MRI / PET-US /
SPECT-CT / MRI-US

**Radiopharmaceuticals****PET****Multimodal Imaging**

PET-CT / PET-MRI /
SPECT-CT

**Preclinical research****Clinical Phases****Two-photon microscopy**

Multiple labeling

**MRI**

3T / 7T / 11.7T / 17.2T

- ✓ Rodents & NHP
- ✓ BSL1 to 3 environment

**Ultrasound**

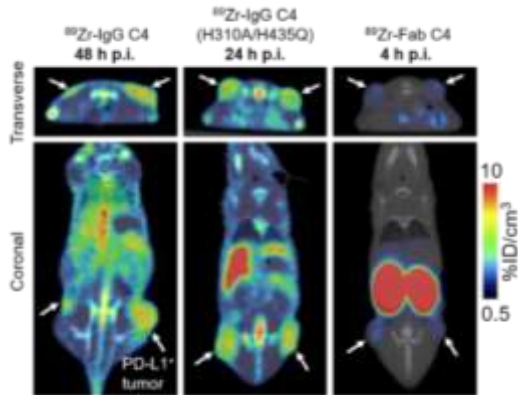
Imaging & Therapeutical

**MRI**

3T / 7T / 11,7T

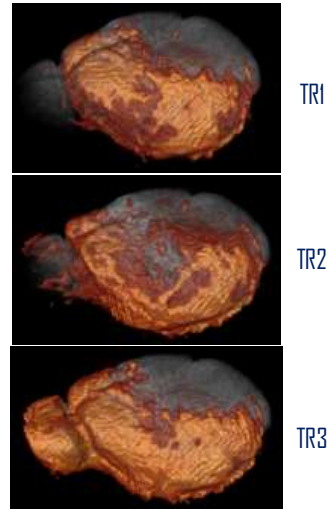
**Ultrasound**

Immuno-PET



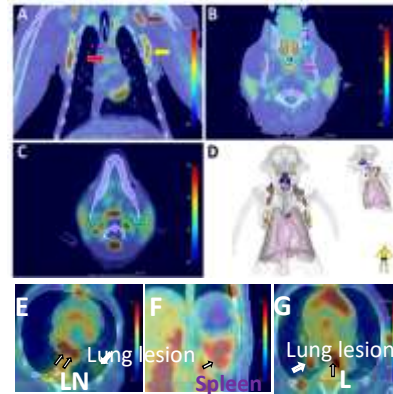
Characterization of 3 ligands derived from the anti-PD-L1 IgG1 using ^{89}Zr in a xenograft model

Mn2+ Enhanced MRI



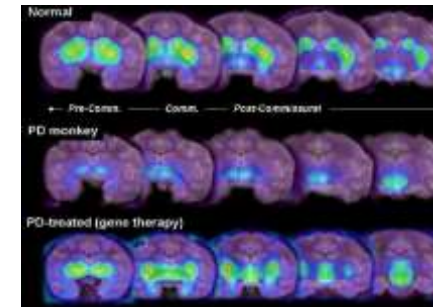
Drug effects on functional neuroimaging in mouse

PET-CT



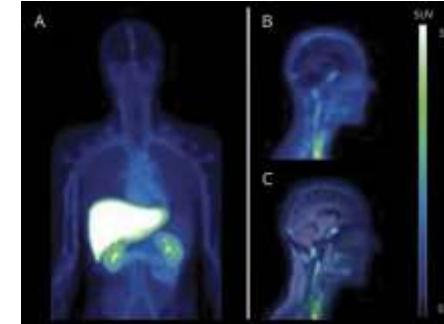
Infection effect of Sars-Cov-2 in NHP - $^{[18\text{F}]}\text{FDG}$

PET



Gene therapy efficacy on a NHP model of Parkinson's disease - $^{[18\text{F}]}\text{G-FMT}$

PET/MRI



Biodistribution of marketed drug
PET Microdosing - $^{[11\text{C}]}\text{Glyburide}$

→ Efficacy using specific biomarkers

→ Biodistribution and PK-PD

- Optimization of dose, route and schedule of administration
- Prediction of efficacy and/or toxicity of a drug
- Receptor occupancy

→ Translational development



Preclinical research

Clinical Phases

BSL 1-2-3 ENVIRONMENTS

FULL SET OF OFFER

Animal models	Genomics	Viral vector production	Anatomopathology	Genomics	MEG	Anatomopathology
General and stereotactic surgery	Proteomics	Biotherapy	Immunohistochemistry	BioBanking	EEG	Immunohistochemistry
Cognitive and motor behavior	Metabolics	Aptamer	Optical imaging	Proteomics	Machine learning & IA	Optical imaging
Flow & Mass spectrometry	Biochemistry	BioBanking	Ex vivo imaging			Ex vivo imaging

RESEARCH EXPERTISE

Neurodegenerative diseases

Oncology

Chronic mental illnesses in adult

Research protocol management

Ophthalmology

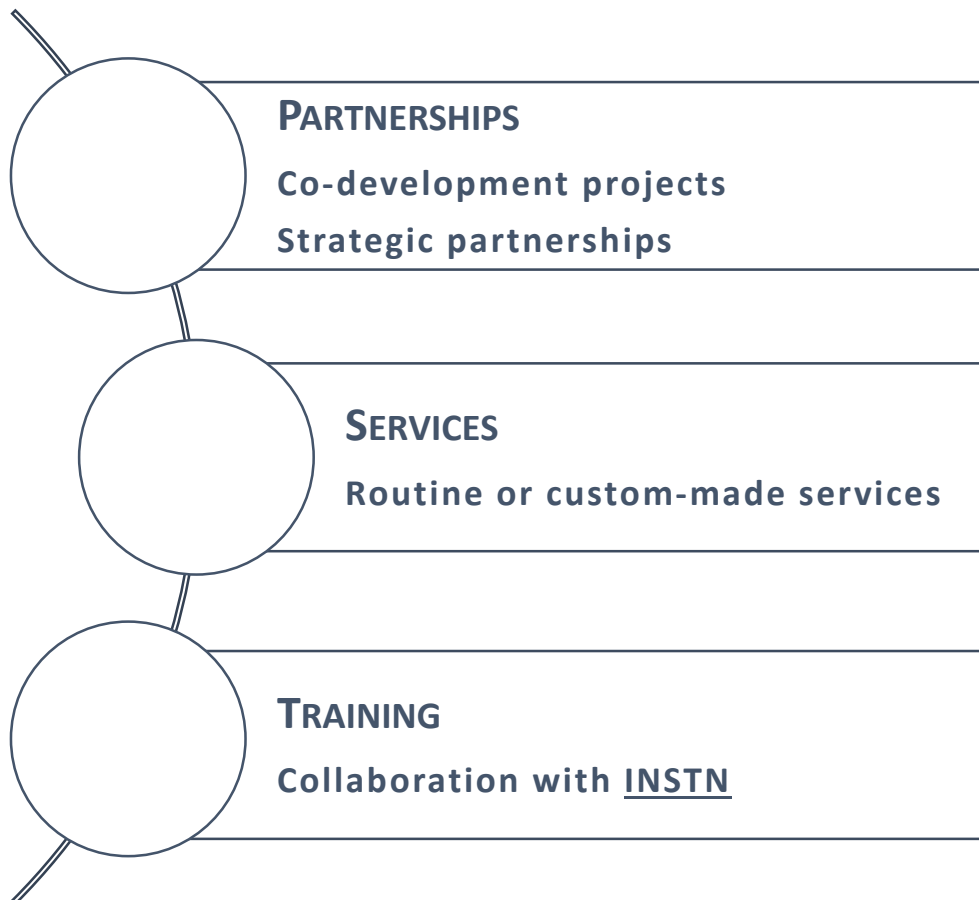
Infectious diseases

Neurodegenerative diseases

Brain development pathology

Brain tumors

Normal aging



A project management process

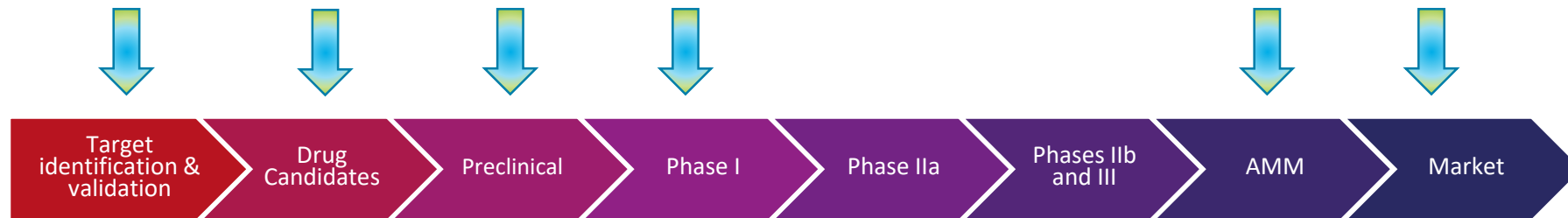
- ❖ A dedicated manager
- ❖ Instrument maintenance and calibration
- ❖ Data security, confidentiality and storage
- ❖ Project traceability
- ❖ Formalized protocols
- ❖ Compliance with ethical and regulatory aspects
- ❖ Staff competence and empowerment



World-renowned key players with long-standing collaborations with industry



- **Main advantages:** Quantitative - Non-invasive - Longitudinal - Biomarkers & Drugs - 3R approach



- **Pre-clinical**

- ❖ Validation of preclinical models
- ❖ Proof-of-concept studies
- ❖ Dose/response relationships
- ❖ Efficacy
- ❖ PK / PD
- ❖ Longitudinal biodistribution
- ❖ Qualification for use in the early clinical trials

- **Early clinical trials**

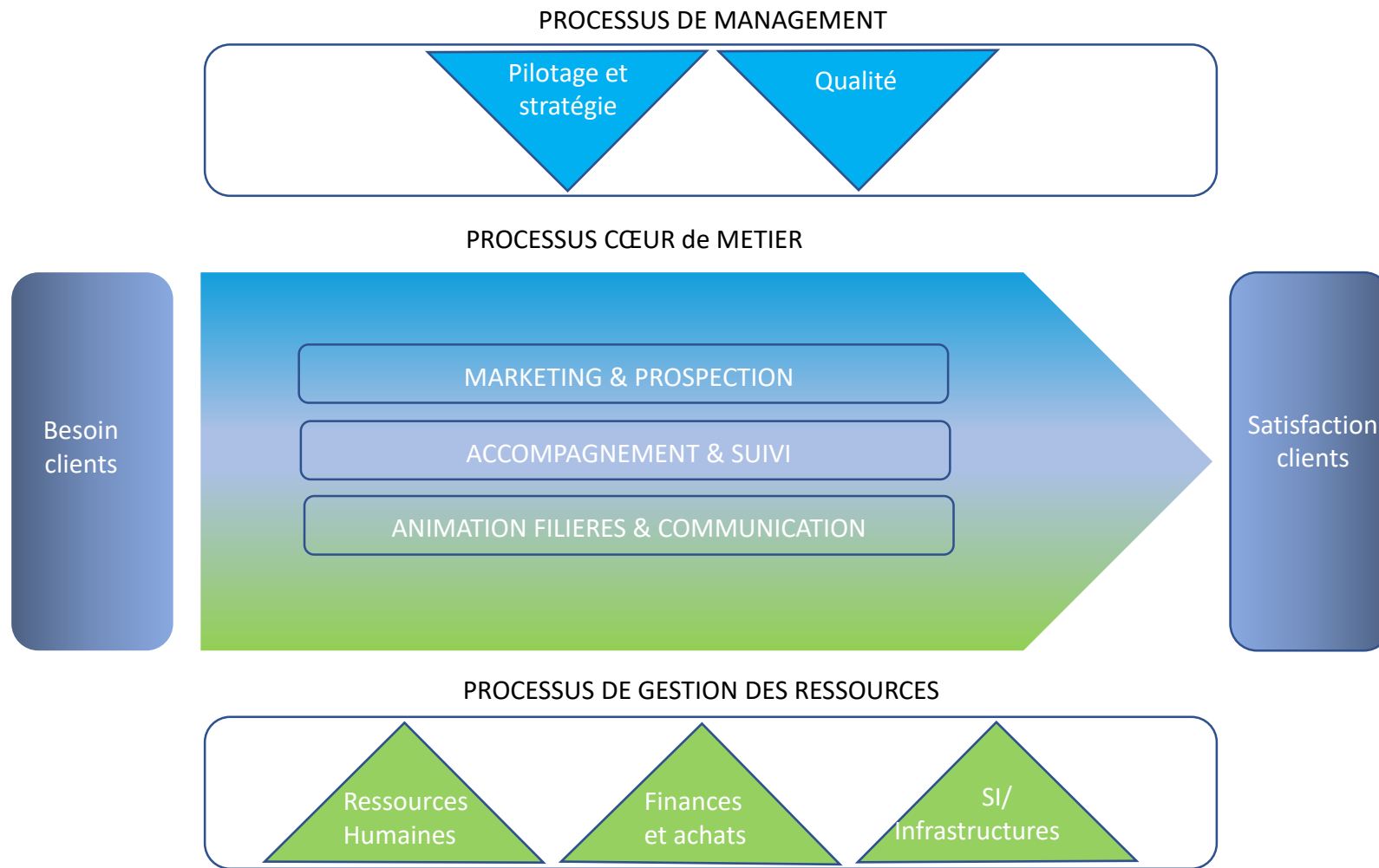
- ❖ Target / Side effect
- ❖ Dose selection
- ❖ Stratify study populations
- ❖ Go / No Go

- **Phase III / registration**

- ❖ Stratify populations
- ❖ Predictive response

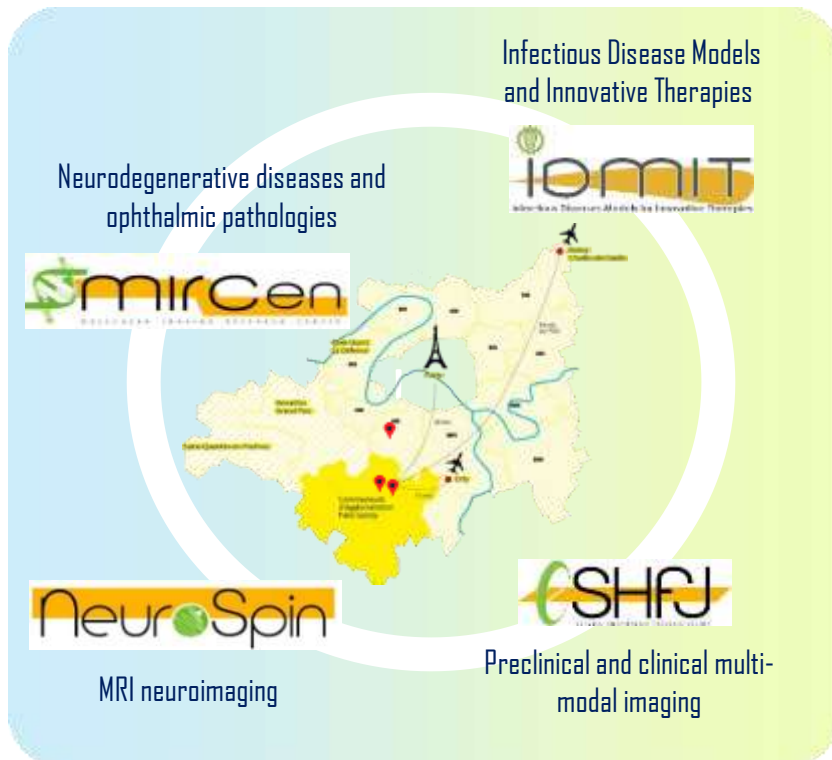
- **Clinical practice**

- ❖ Companion diagnostics
- ❖ Stratify populations
- ❖ Predictive response



A one-stop shop to platforms and expertise for drug & biomarker development From POC in animal to drug development in patients

FOUR MULTIDISCIPLINARY CENTERS



Neurodegenerative diseases and ophthalmic pathologies

mirCen

Infectious Disease Models and Innovative Therapies

IDMIT

NeuroSpin

MRI neuroimaging

Preclinical and clinical multi-modal imaging

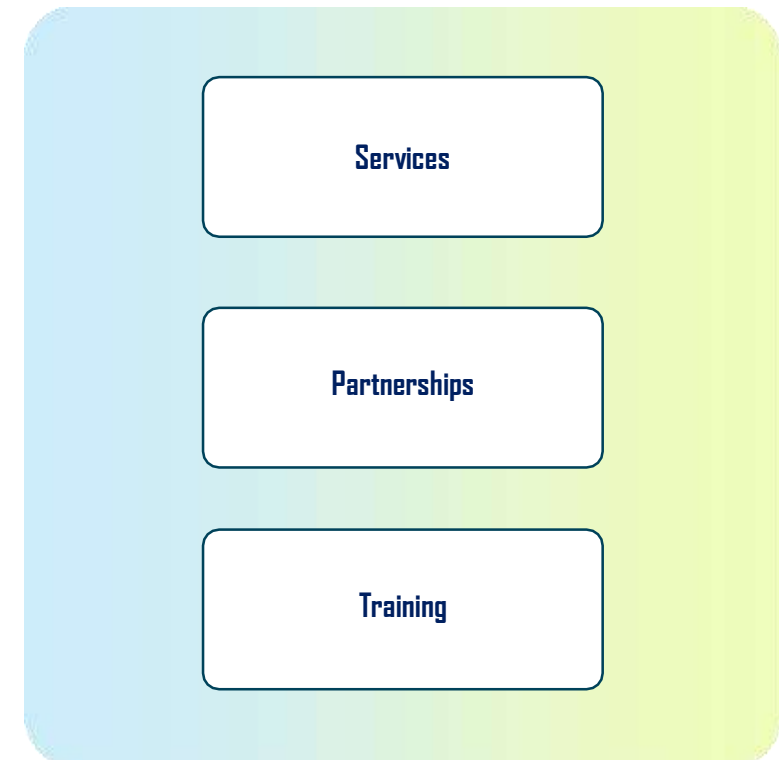
SHFJ

STATE-OF-THE-ART TRANSLATIONAL IN VIVO IMAGING

In vivo imaging platforms and expertise:
MRI, PET, ultrasound and hybrid imaging



A CUSTOM-MADE OFFER



Services

Partnerships

Training



+33 6 17 86 48 70



ali.aitikhlef@cea.fr



[Pasrel Imagerie](#)



[PASREL-PROJECT](#)



4 Pl. du Général Leclerc - 91400 Orsay