Large-scale academic and industrial projects

ICARD
Industrial
academic promotion AP-HP
Evaluation of the effect of dapagliflozin on heart failure in type 2 diabetics by MRI and PET-MRI

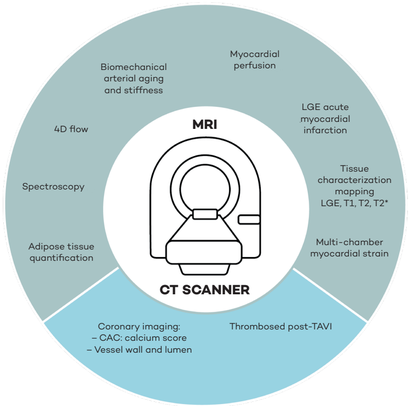
METACARDIS
FP7 European
MRI ancillary study of cardiometabolic diseases

CT-AF
PHRC
Assessment of regional strain of the left atrium in patients with atrial fibrillation

CHOLCOEUR
PHRC
Cardiac involvement in familial hypercholesterolemia

QUORUM
Industrial
Randomized therapeutic trial of fribastat in the acute phase of myocardial infarction

MAESTRIA
H2020
Development and validation of the first digital platform for the integrative diagnosis of atrial cardiomyopathy.



OBEMINALE 2
Industrial
Industrial nutritional trial in obesity

ACROCOEUR
PHRC
Evaluation of cardiac biomarkers in endocrine diseases

MET-INF-T2D
academic
MRI evaluation of metabolic inflexibility of the heart as a predictive factor for the onset of heart failure in type 2 diabetics

CORTICOEUR
PHRC
Evaluation of myocardial steatosis in hypercortisolism

OPTIM
PHRC
Optimization of the implantation of an automatic defibrillator in patients with hypertrophic cardiomyopathy

CARFA
international consortium,
project in collaboration with the IHU-ICM brain institute
Cardiac and arterial involvement in Friedrich's ataxia

IMPACT-1D
PHRC
Assessment of coronary and leg calcification before and after treatment with metformin in type 1 diabetics

FH-CALC
Industrial
Assessment of coronary plaque in familial hypercholesterolemia

ATLANTIS
Industrial
Randomized therapeutic trial post TAVI

OUR CLIENTS

AMGEN; AstraZeneca; LNC Therapeutics; Quantum Genomics

OUR FOUNDERS

Inserm · Assistance Publique Hôpitaux de Paris · Sorbonne Université

OUR PARTNERS

Action Group; Georges Pompidou European Hospital AP-HP; Johns Hopkins University; University of Bern; Oxford University

OUR SUPPORTERS

ANR Agence Nationale de la Recherche · Horizon 2020 · Investir l'Avenir

The objective of modern medicine is to provide populations with non-invasive personalized medicine that is based on evidence, and with the best cost/benefit ratio for both the patient and the health systems.

New imaging techniques such as MRI now enable early diagnosis of diseases by detecting anomalies in organ structure or function at an infra-clinical stage. In recent years, these techniques have become easier to reproduce and make it possible to envisage targeted management and better monitoring of therapeutic efficacy.

Through increased sensitivity and specificity, the MRI also makes it possible to reduce the number of subjects needed for clinical studies based on quantitative cardiovascular parameters.

Prof. Alban Redheuil, PhD
Cardiovascular and Thoracic Imaging (CTI)
Unit Responsible at the Pitié-Salpêtrière,
Scientific and Medical Responsible ICAN IMAGING

The cardiovascular imaging team of the Biomedical Imaging Laboratory (Sorbonne University, Inserm, CNRS) founded by Nadjia Kachenoura in 2014, is a multidisciplinary team that develops innovative imaging biomarkers combining cardiovascular and metabolic phenotypes.

Our research targets the development and validation of software for the analysis of cardiac and vascular images, particularly in MRI, combining conventional image processing algorithms and Artificial Intelligence. Our strong interaction with ICAN Imaging allows a transfer of our biomarkers to the clinic, thus providing users with a broader service offering at the cutting edge of technology in the field of cardiovascular imaging.

Dr. Nadjia Kachenoura, PhD
INSERM Research Director
Responsible of the Cardiovascular Imaging Team
Biomedical Imaging Laboratory

THE EXPERT TEAM OF THE ICAN IMAGING PLATFORM

Head of MRI and Core Lab (IHU ICAN/INSERM)
K. Bouazizi

Scientific Responsible (AP-HP)
Prof A. Redheuil

Scientific council
Prof I. Bloch (Télécom Paris), Prof D. Dormont (AP-HP), Prof G. Helft (AP-HP), Dr N. Kachenoura (INSERM), Dr F. Lethimonnier (INSERM)

Medical team (AP-HP)
S. Boussouar, E. Charpentier, N. Pasi, A. Redheuil

Management of nursing staff (AP-HP)
I. Delavault, K. Grizaud, N. Lechault-Campan,

MRI team and medical imaging technicians (Assistance Publique–Hôpitaux de Paris (AP-HP)
P. Lahady, P. Raturat, R. Ulliac

Secretary (AP-HP)
L. Sellam

Core Lab team (IHU ICAN)
A. Kilinc, M. Zarai, C. Ty

Research team (INSERM)
E. Blondiaux, E. Bollache, K. Bouazizi, E. Charpentier, T. Dietenbeck, N. Kachenoura, A. Redheuil

Partners
DMU Diament (medical university departments) (AP-HP)
Biomedical Imaging Laboratory LIB UMR 1146 (SU / INSERM / CNRS)

YOUR DEDICATED CONTACTS

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IHU ican
Foundation for Innovation in Cardiometabolism and Nutrition

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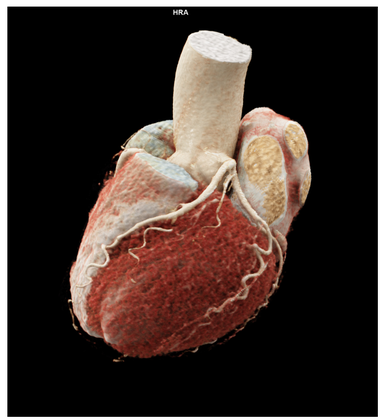
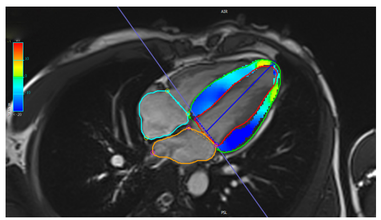
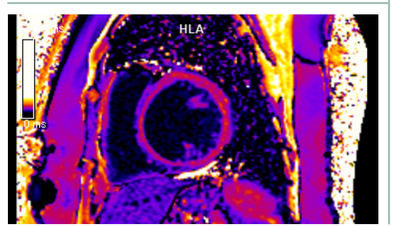
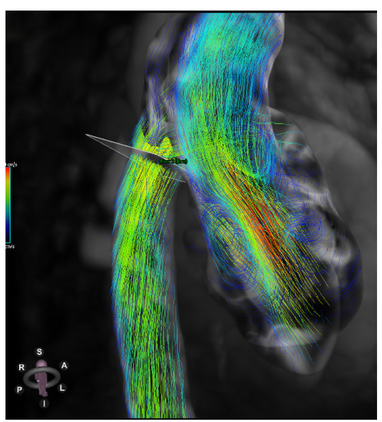
IHU ican Imaging
MRI & Core Lab

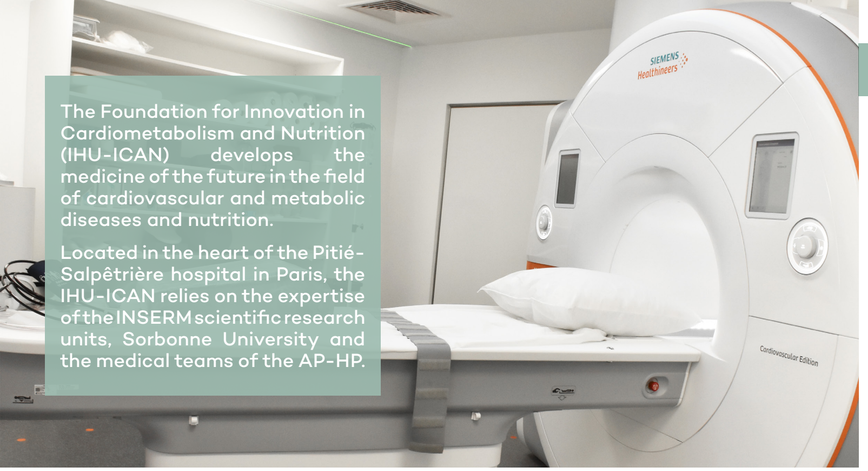








First **translational research platform in cardiometabolic imaging** in Ile-de-France



The Foundation for Innovation in Cardiometabolism and Nutrition (IHU-ICAN) develops the medicine of the future in the field of cardiovascular and metabolic diseases and nutrition.

Located in the heart of the Pitié-Salpêtrière hospital in Paris, the IHU-ICAN relies on the expertise of the INSERM scientific research units, Sorbonne University and the medical teams of the AP-HP.

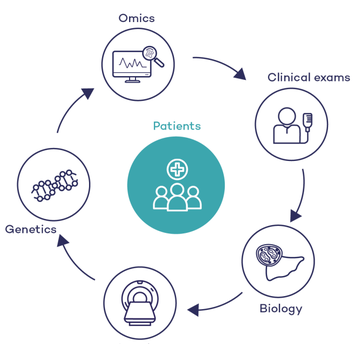
ICAN IMAGING: a unique service in Ile-de-France

The IHU-ICAN's acquisition of a latest-generation 1.5T cardiovascular MRI has enabled the creation of the first cardiovascular and metabolic imaging platform using magnetic resonance dedicated entirely to humans in Ile-de-France.

This platform provides unique **access for academic, hospital and industrial research** to **advanced non-invasive quantitative imaging of the** cardiocirculatory system, and the development of metabolic imaging.

These new techniques, directly applied to humans, enable **accelerated patient-centered translational research.**
The development of imaging sequences and the optimization and standardization of protocols based on local skills in cardio-radiology (ICT - In cardio-thoracic imaging) are combined with expertise in image analysis and quantification from the Biomedical Imaging Laboratory (LIB, Sorbonne University, INSERM, CNRS) to develop new imaging biomarkers.

Multiparametric imaging data can be integrated with other Omics data within ICAN scientific platforms, to determine **new strategies for personalized patient care,** using the latest data analysis techniques via **Artificial Intelligence.**



Platform Expertise

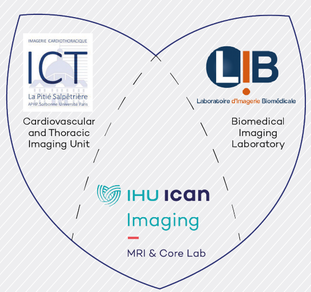
The ICAN IMAGING platform combines**3 complementary activities**: 1- **image acquisition using the MRI platform**, 2- **standardized baseline analysis, 3- image management by the central imaging laboratory (Core Lab)**, as well as **setting up projects** including methodological, regulatory, financial and communication aspects by the IHU-ICAN.

Image acquisition - MRI platform

- Acquisition of standardized and optimized images
- Clinical research protocols
- Methodological and technological research protocols
- Access to cohort and population imaging
- Quality control and data management – GDPR compliant archiving

Image analysis - Core Lab

- Medical reading, expert labelling, adjudication
- Internationally recognized expertise in processing cardiovascular images
- Research and development of new biomarkers in cardiovascular imaging
- A custom-made analysis service within the framework of diagnostic/therapeutic studies



Multidisciplinary team specialized in cardiovascular imaging

The **ICAN IMAGING** platform provides investigators and sponsors with a high-level structure and expertise in order to:

- Offer acomplete service for setting up your academic and industrial projects in interaction with our multidisciplinary team
- Develop, validate and apply in population, quantitative biomarkers in *in vivo* imaging
- Identify and study new determinants for earlier diagnosis and predicting disease progression
- Evaluate the medico-economic aspect of innovative strategies based on high-tech imaging

Ambitious Objectives

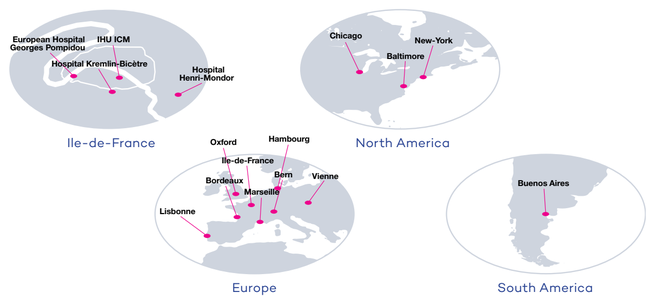
Research:

- Define new judgement criteria for clinical trials and new therapeutic targets using advanced non-invasive imaging
- Design and validate new quantitative imaging biomarkers for to anticipate cardiometabolic disease complications
- Provide all skills ranging from high quality medical images to diagnostic and prognostic biomarkers
- Develop population and cohort imaging in Ile-de-France in the cardiovascular and metabolic field
- Contribute to create labeled-data biobank

Care:

- Prevent complications associated with cardiometabolic diseases by focusing on their early detection and treatment
- Integrate advanced non-invasive imaging into new strategies for the personalized management of patients with cardiovascular and metabolic diseases
- Educating, training and discussing with the health professionals

INTERNATIONAL REACH



CRUCIAL ELEMENTS FOR SETTING UP YOUR ACADEMIC AND INDUSTRIAL PROJECTS:

- Personalized support in setting up your research project including advanced cardiovascular imaging at national and international levels
- Legal and specific valuation expertise
- A unique network of regional, national and international partners
- A communication and sponsorship team enabling the search for private funding and the dissemination of information