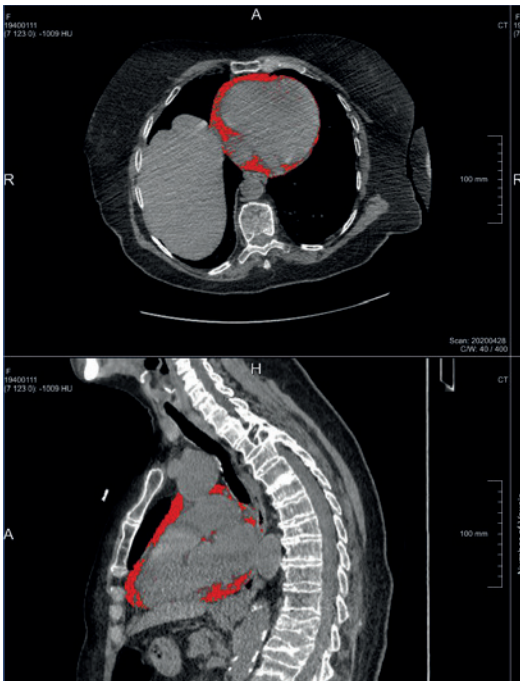
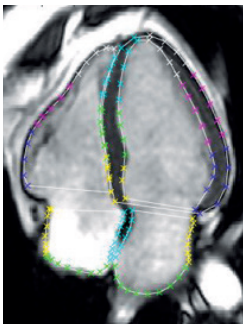
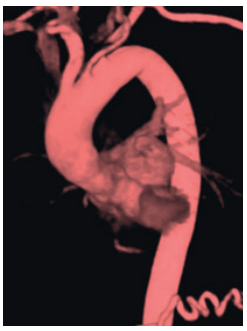
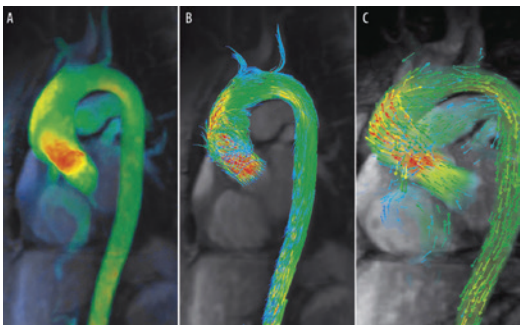
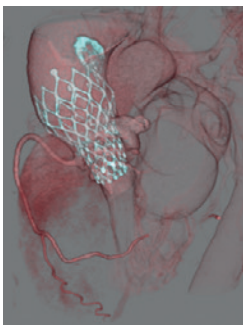
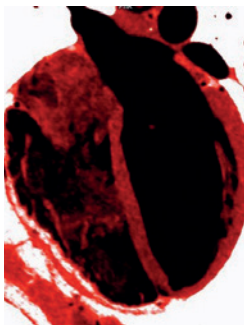
IHU
ican
Foundation for Innovation
in Cardiometabolism
and Nutrition

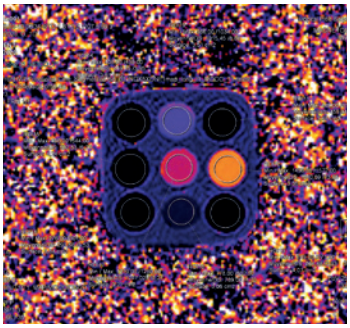
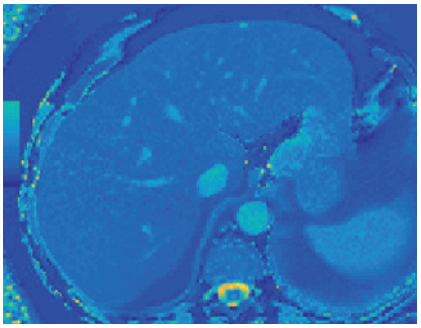
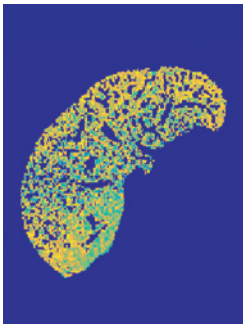
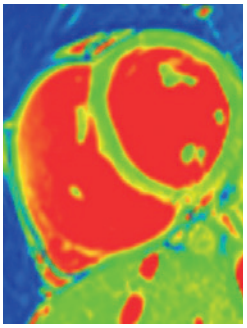



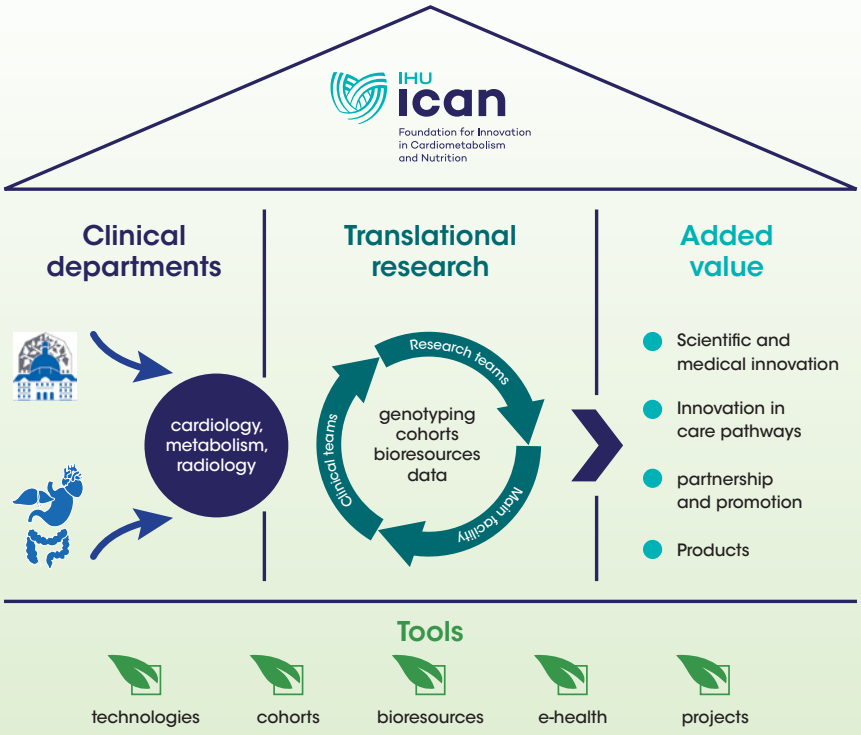
ican imaging

The Paris region's first translational research platform in **cardiovascular and metabolic imaging**

IHU-ICAN: an institute of excellence in the heart of Paris

The Institute of Cardiometabolism and Nutrition (IHU-ICAN) is developing 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 ICAN Institute draws on the expertise of the scientific research units of INSERM, Sorbonne University, and the medical teams of the AP-HP.



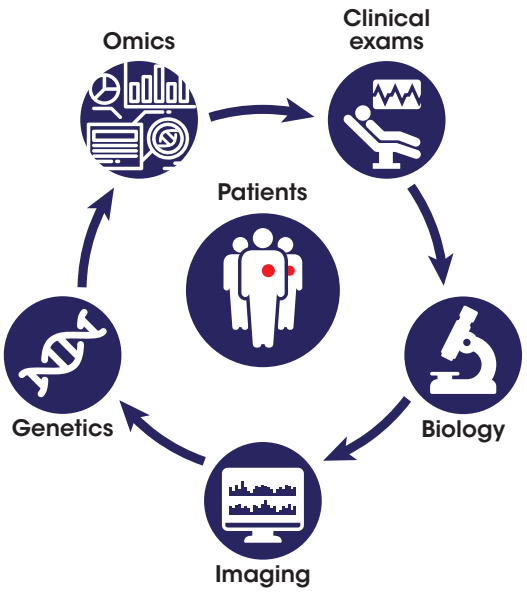
ICAN IMAGING: a unique technological offer in the Paris area

The acquisition by the IHU-ICAN of a latest generation 1.5T cardiovascular MRI has enabled the creation of the first cardiovascular and metabolic magnetic resonance imaging platform entirely dedicated to humans in the Paris area.

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

These new techniques, applied directly to humans within a hospital environment, allow for **accelerated translational research towards patients.**
The development of advanced imaging workflow, the optimization and standardization of protocols based on local skills in cardiovascular imaging (ICT) are combined with the expertise in image analysis and quantification of the Biomedical Imaging Laboratory (LIB, Sorbonne University, INSERM, CNRS) to **offer new imaging biomarkers.**

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



The platform's expertise

The new ICAN IMAGING platform combines three complementary activities: image acquisition by the MRI platform, standardized reference analysis and image management by the Core Lab, and project development including methodological, regulatory, financial and communication aspects by the IHU-ICAN.

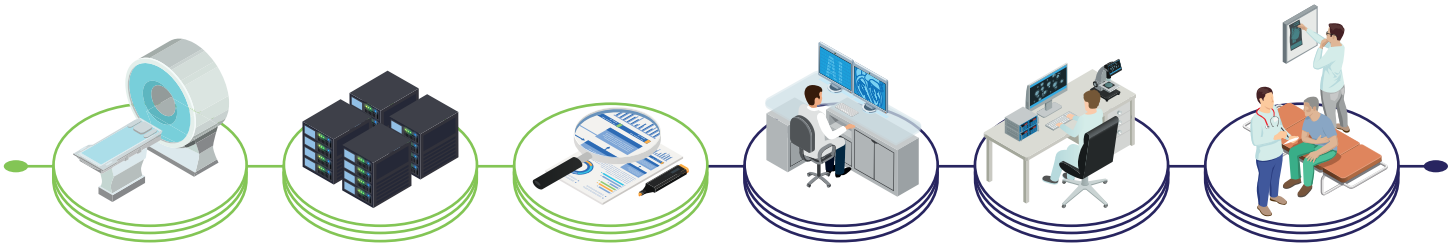


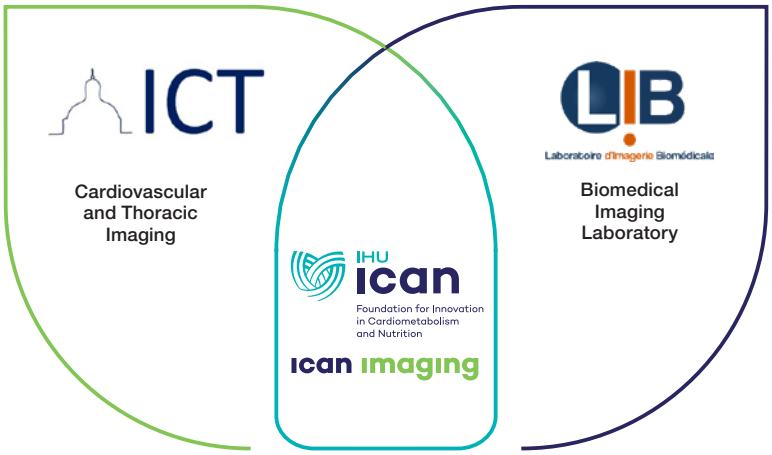
Image acquisition | RGPD compliant research and PACS storage | Data quality control and post-processing | Expert medical reading | Quantitative data analysis | Scientific exploitation output

Image acquisition - MRI platform

- Standardized and optimized image acquisition
- Clinical research protocols
- Methodological and technological research protocols
- Access to cohort and population-based imaging
- Quality control and data management - RGPD compatible archiving

Image analysis

- Medical reading, expert labeling, adjudication
- Internationally recognized expertise in cardiovascular image processing
- Design and offer of innovative, multi-vendor image analysis software
- Research and development of new biomarkers in cardiovascular imaging
- A customized analysis offer in the framework of image analysis for diagnostic / therapeutic studies



Multidisciplinary team specialized in cardiovascular imaging

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

- Offer a one-stop shop for setting up your academic and industrial projects in interaction with our multidisciplinary team
- Develop, validate, and apply quantitative biomarkers for in vivo population imaging
- Identify and study new determinants for an earlier diagnosis and predict the evolution of the disease
- Evaluate the medico-economic impact of innovative strategies based on high-tech imaging

Ambitious goals

In Research:

- Define new clinical trial endpoints and therapeutic targets through advanced non-invasive imaging
- Design and validate new quantitative imaging biomarkers to anticipate complications of cardiometabolic diseases
- Provide full spectrum from high quality medical images imaging based research from to biomarkers for diagnosis and prognosis
- Develop population and cohort imaging in the Paris area the cardiovascular and metabolic fields
- Participate in the constitution of labelled and expert-annotated biobanks

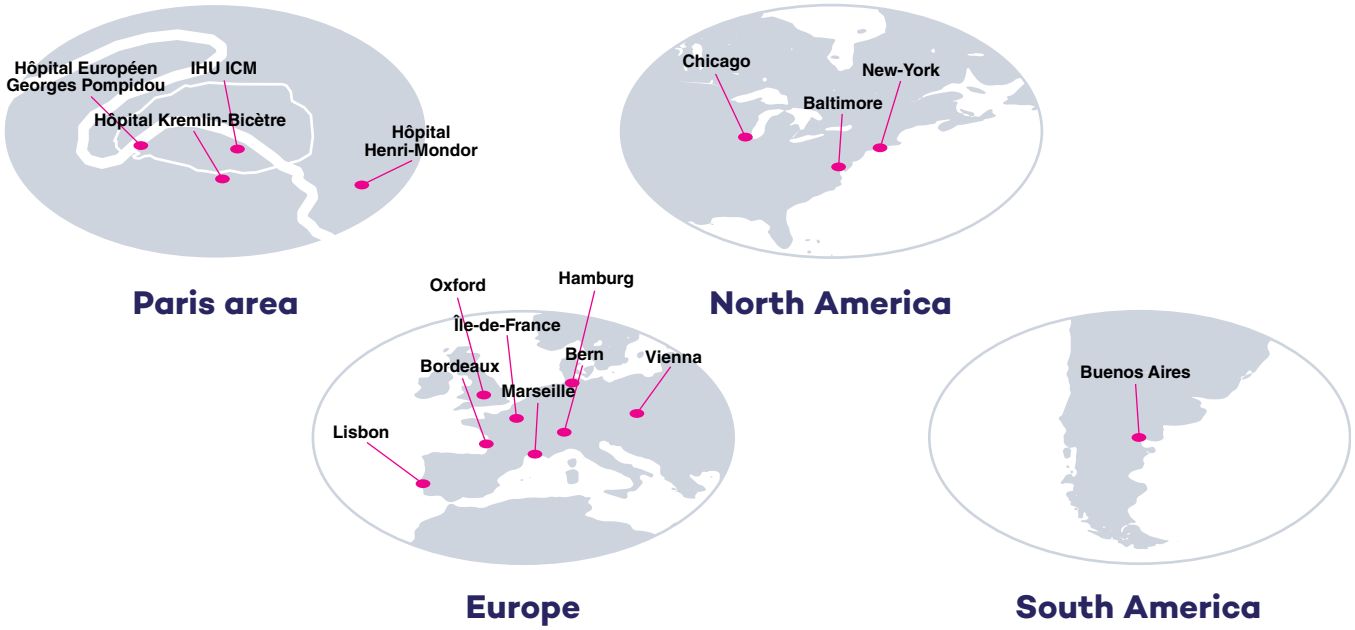
In Care:

- To prevent complications associated with cardiometabolic diseases by focusing on their early detection and treatment
- To integrate advanced non-invasive imaging into new strategies for personalized management of patients with cardiovascular and metabolic diseases
- To educate, train, exchange with health professionals

Essential assets for setting up your academic or industrial projects:

- Personalized support in setting up your research project including advanced cardiovascular imaging at national and international level
- Specific legal and valuation expertise
- A unique network of regional, national, and international partners
- A communication and dissemination team to bring your research and innovation to a wide audience

An established international network



Past/completed projects

METACARDIS
European FP7

MRI ancillary study in cardiometabolic diseases

QUORUM
international consortium

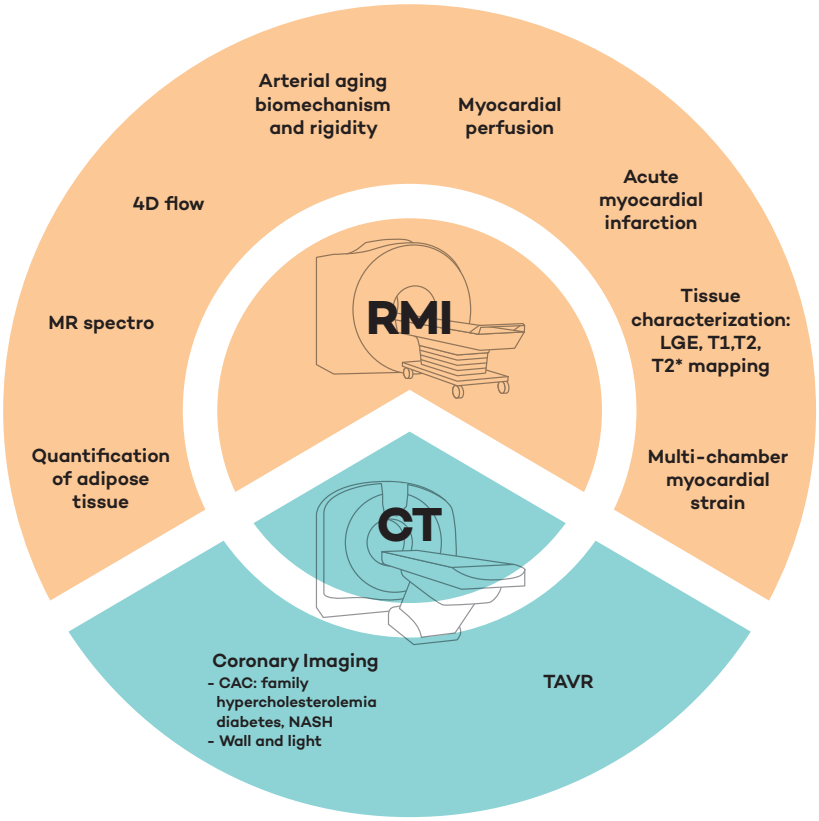
Randomized therapeutic trial of firibastat in the acute phase of myocardial infarction

CHOLCOEUR
PHRC

Cardiac involvement in familial hypercholesterolemia

ACROCOEUR
PHRC

Effect of surgical treatment on cardiac function in acromegaly



OBEMINALE 2
industrial

Nutritional industry trial in obesity

MAESTRIA
H2020

Develop and validate the first digital integrative platform for diagnosis of atrial

CORTICOEUR
PHRC

Evaluation of myocardial steatosis in hypercorticism

CMR^{AI}
EIT

Optimize with AI MRI acquisition in time and quality as well as the post-processing of images for a better detection of aortic aneurysm

CARFA
international consortium, project linked to the IHU-ICM brain institute

Cardiac and arterial involvement in Friedreich's ataxia

OPTIM
PHRC

Identification of genetic risk factors and MRI

FH-CALC
industrial

CT study of coronary plaque in hypercholesterolemia

ATLANTIS
international consortium

Randomized therapeutic trial post TAVI

Our clients

AMGEN

AstraZeneca

LNC Therapeutics
Microbiome therapies for metabolic diseases

Quantum Genomics
BRAIN FOR LIFE

Our partners

Imageens

University of Oxford

SIEMENS Healthineers

Johns Hopkins University

eit Health

Horizon 2020

ANR

Hôpital européen Georges-Pompidou AP-HP

ACTION Group

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« The goal of modern medicine is to provide populations with personalized, evidence-based, non-invasive and cost-effective medicine to improve patient care and the overall healthcare system.

New imaging techniques, such as MRI, now make it possible to diagnose diseases at an early stage by non-invasively detecting abnormalities in organ structure or function at a sub-clinical stage. In recent years, these techniques have become more reproducible rendering them acutely useful for targeted treatment and effective in therapeutic monitoring.

With its increased sensitivity and specificity, MRI also reduces the number of subjects needed for clinical studies based on quantitative cardiovascular parameters. »

Alban Redheuil, MD, PhD, head of the Cardiovascular and Thoracic Imaging Unit (ICT) at the Pitié-Salpêtrière Hospital, medical director of the ICAN IMAGING platform, Professor of Medicine Sorbonne Université

Nadjia Kachenoura, PhD, head of the cardiovascular imaging team (LIB), methodological director of the ICAN IMAGING platform, Research Director at INSERM

The team

ICAN team:

Platform Coordinator: L. Le Chat

Scientific leaders: A. Redheuil (AP-HP/SU) and N. Kachenoura (DR INSERM)

Medical team: E. Charpentier, S. Boussouar, N. Pasi, A. Redheuil

Paramedical management: I. Delavault, K. Grizaud

MRI and Core Lab Manager: K. Bouazizi

MRI team and medical imaging MR tech: M. Prigent, P. Raturat, P. Lahady, R. Ulliac

Core Lab team: M. Prigent, M. Zarai, A. Killinc

Research team: E. Bollache, T. Dietenbeck, E. Blondiaux, E. Charpentier, A. Redheuil, N. Kachenoura, A. De Cesare, A. Gallo, K. Bouazizi

Scientific Council :

F. Lethimonnier (INSERM), I. Bloch (SU), Pr G. Helft (AP-HP), Pr D. Dormont (AP-HP)

Partners :

DMU Diament (AP-HP)

Biomedical Imaging Laboratory (INSERM/CNRS)

Sorbonne University

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ican imaging

The Paris region's first translational research platform in **cardiovascular and metabolic imaging**

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