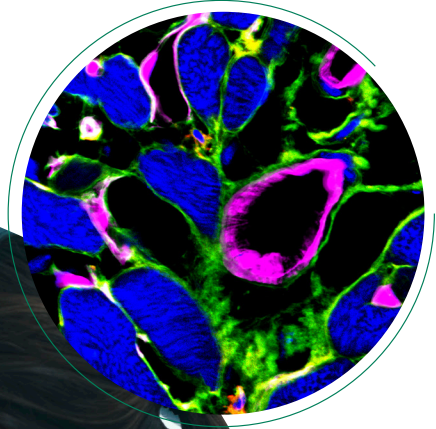


HUMANITAS
RESEARCH HOSPITAL

HU HUMANITAS
UNIVERSITY

Humanitas Research

Advancing science
to make a difference
in patients' life





Humanitas Research Hospital is a highly-specialized research and university hospital. It is the first Italian hospital certified for its excellence by the **Joint Commission International** as Academic Hospital and it hosts a research center, as well as the PhD and residency programs of **Humanitas University**, an international Medical School that stands out for its real-world simulation-based approach to medical training.

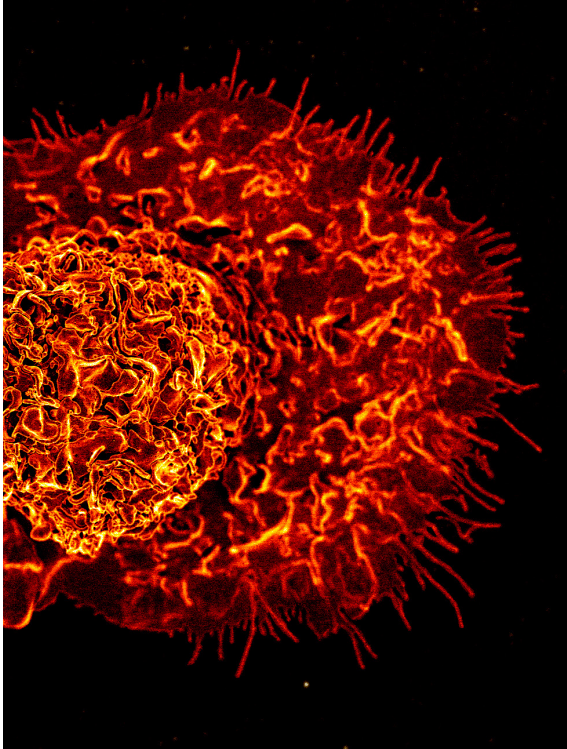
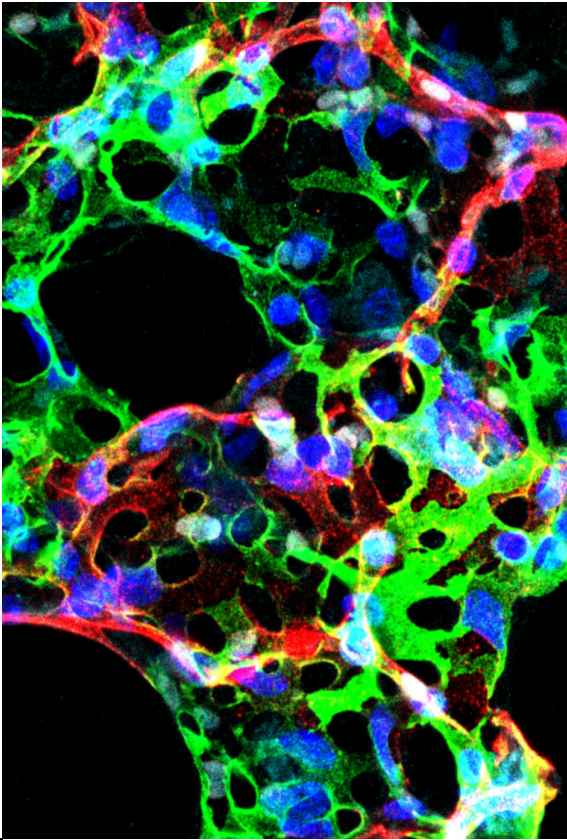
Humanitas Research is made possible every day by more than 500 passionate physician scientists and researchers, working in the hospital wards and across 10.000 square meters of **high-tech laboratories**. Their common mission is advancing science to make a difference in patients' life.

Humanitas Research is guided by **unmet clinical needs** and it leverages high-end technologies to dissect the mechanisms underlying human pathologies with the final goal of developing **new therapies** and new diagnostic and prognostic strategies. The institute is recognized worldwide for its contribution to the understanding of the inflammation-cancer connection.

5 Translational Programs

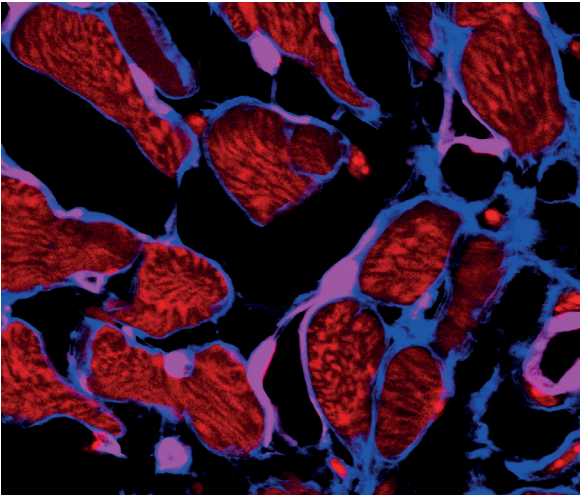
Cancer | Overcoming our inner enemy

Cancer is characterized by uncontrolled growth and spread of abnormal cells. Cancer biology, and especially the crosstalk between cancer and immune cells, is extremely complex. Yet, understanding it could open up novel therapeutic strategies. Humanitas researchers investigate tumor biology and tumor microenvironment using advanced single cells approaches, with a special focus on the double-edge role of innate and adaptive immunity.



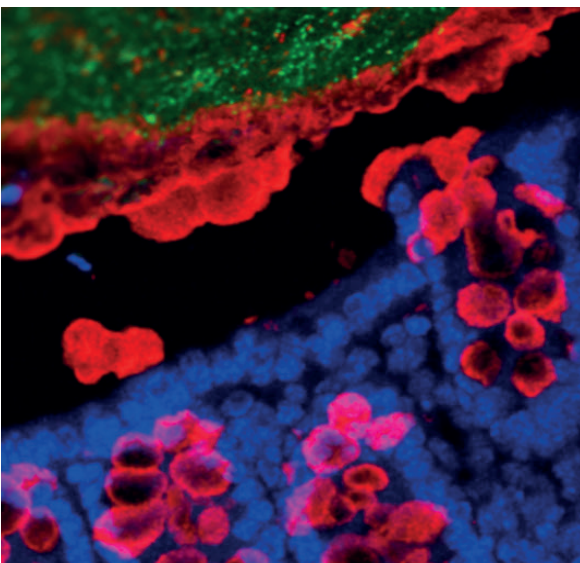
Immunology| Immunity: from damage to regeneration

Over millions of years, the immune system has evolved to protect our bodies against pathogens and to detect and eliminate cancer cells, while promoting regenerative processes meant to rebuilt tissues after its protective, yet sometimes damaging, activation. In Humanitas, we are studying how and when this protective system fails to act and, on the contrary, the reason why sometimes it doesn't stop, leading to immune-mediated diseases.



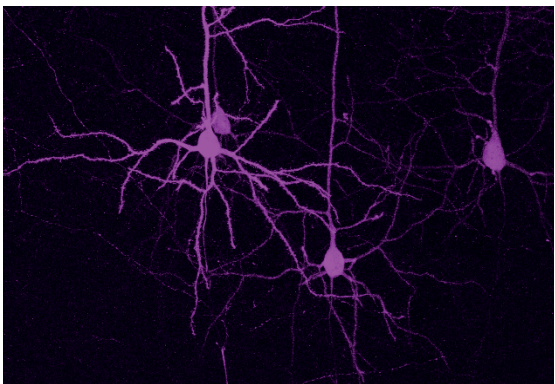
Molecular cardiology | The molecular basis of the beat of life

Molecular cardiology is a new and fast-growing area of cardiovascular medicine that applies molecular biology techniques to the investigation, diagnosis, prevention and treatment of cardiovascular diseases. Many of them are associated with dysfunctions in the electrical signaling that coordinates heart cells contraction, other with innate and acquired immunity activation in cardiac and vascular tissues.



Neuroscience | Dissecting the brain "black box"

The brain is probably the most complex biological object we know of, capable of incredible feats and yet highly vulnerable. Humanitas' neuroscientists study the mechanisms orchestrating brain development and how their disruption during gestation or aging may give rise to neurodevelopmental disorders – such as Autism or ADHD – and to neurodegenerative diseases, with a focus on synapses' formation and their crosstalk with the immune system.



Gastroenterology | Our most complex exchange system

Gastrointestinal diseases encompass a wide range of disorders, some of them highly prevalent and some quite rare, but all complex in nature. To provide new answers for patients, we combine preclinical models, AI-driven diagnostic technology, minimally invasive surgery and advanced clinical trials assessing new treatments.

We are committed to integrate basic, translational and clinical research, fostering strong collaborations between clinicians, researchers, data scientists and technologists through a dedicated infrastructure of enabling platforms.

We strive for the most advanced instruments and expertise available in fields ranging from genomics to flow cytometry, from microscopy to metabolomics and bio-printing, certain that only frontier technologies will allow us to do the best science.

Research Enabling Platforms

Technology platforms

Multiscale imaging, Flow Cytometry, Metabolomics, Genomics, Histology

Clinical Platforms

Supporting Humanitas physician scientists with expertise in different fields

AI Center

Team of data scientists, doctors and digital experts working together to shape the future of healthcare and medicine

3D Innovation Lab

Answering clinical needs, improving medical education and promoting innovative research models

Biobank

A repository of biological samples and related clinical data advancing Humanitas biomedical research

Humanitas University

Humanitas University is an international Medical School based in Milan, closely integrated with both the scientific and clinical activity of Humanitas Research Hospital. Humanitas University stands out for its international outlook - with a visiting faculty that includes Nobel Laureates and internationally renowned scientists - as well as its strive for innovation and real-world simulation-based approach to medical training.



2.720
students

2.000+

square meters of simulation facilities

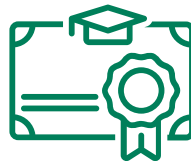


44%

international
medical students



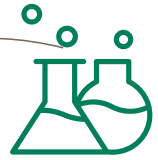
7 degree
courses
24 residency
programs



3 **PhD**
programs
with 121 PhD
students
enrolled



Humanitas Research at a glance



1.857

scientific publications in 2023

14.156

total impact factor in 2023

320

clinical trials approved in 2023

139

independent trials

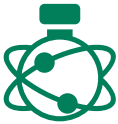
182

sponsored trials

38 research labs

10.000

square meters of high-tech research facilities

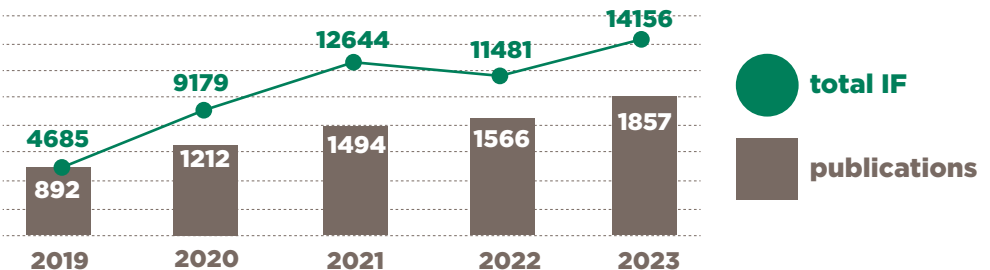


35

ongoing international grants

52%

of our research is conducted in collaboration with **139 countries** around the world





HUMANITAS IN NUMBERS

10

Hospitals

among them, the flagship IRCCS Humanitas Research Hospital, equipped with 38 labs and 5 technological platforms enabling frontier preclinical research



22

Humanitas Medical Care

small clinics providing outpatient care in urban areas, close to shops and offices



2.720

Students of Humanitas University

an international medical university dedicated to the advancement of medicine and life sciences



1,2

million
patients
per year

14,7

million
outpatient
services
per year



200.000

inpatient admission per year

3.500

physicians



8.900

employees



humanitas-research.com