

## FROM LIFE SCIENCES TO HEALTH

NARILIS promotes life sciences research, with the aim to further improve health and wellbeing in human and animals. NARILIS therefore supports research expanding our **understanding of fundamental biological processes underlying normal and pathological conditions**, as well as **advancing diagnosis, treatment and prevention of diseases**.

NARILIS conducts research activities within a broad variety of areas and at different levels, **from gene to public health**.

## BRIDGING BASIC SCIENCE AND MEDICINE

NARILIS is based on a **partnership between the UNamur and the hospital complex CHU UCL Namur**. Thanks to this partnership, NARILIS fosters bidirectional interactions between basic- and clinical-oriented researchers, and enables to build bridges from bench to bedside. NARILIS hereby provides scientists the opportunity to conduct research that has an impact on health, and ultimately to participate to the transfer of fundamental scientific discoveries to clinical applications.

## MULTIDISCIPLINARY AND COLLABORATIVE RESEARCH

NARILIS gathers scientists from diverse disciplines, including biologists, physicists, chemists, pharmacists and veterinarians from the UNamur, as well as human healthcare professionals from the CHU UCL Namur. Researchers carrying out projects in more transversal disciplines, such as informatics, mathematics, management and ethics, are also integrated.

## RESEARCH AREAS

### Health & disease-related research

Ageing	Atherosclerosis & Cardiovascular disease	Cancer
Covid-19	Development, Stem cells & Differentiation	Diabetes, obesity, kidney & metabolism
Infectiology	Neurosciences	Organelle & membrane biology
Respiratory disease	Skin disease	Thrombosis & hemostasis
Veterinary medicine		

### Science, technology & innovation

Food analyses & proteomics
Medicinal chemistry
Nanotechnology & biomaterials
Radiobiology & radiation therapy

NARILIS encourages researchers from different disciplines to move from silos to synergy and to work together to develop innovative projects. **Examples of successful multidisciplinary research structures built up within NARILIS are:**

## 1. THE NAMUR THROMBOSIS & HEMOSTASIS CENTER



The NTHC is composed of a multidisciplinary team, including clinicians from the Hematology Department and clinical biologists from the Hematology Laboratory of the CHU UCL Namur (Godinne), as well as researchers from the Pharmacy Department of the UNamur. This structure centralizes all the expertise in thrombosis and hemostasis in the fields of patient care, research and education. Basic research activities aim at (i) understanding the physio-pathological mechanisms underlying thrombosis, (ii) developing new anti-thrombotic drugs, (iii) evaluating laboratory assays for the monitoring of oral anticoagulants, and (iv) elaborating tools for hemocompatibility testing of biomaterials and nanomaterials. Moreover, translational research activities are intended to optimize the management of thrombotic pathologies and to better assess the thrombotic and/or bleeding risk associated with anticoagulothrapy. [More info](#)

## 2. THE NAMUR MEDICINE & DRUG INNOVATION CENTER



The research of effective and innovative drugs remains a major challenge in health. The NAMEDIC was established with this ambitious objective in mind, associating the Chemistry and Pharmacy Departments of the UNamur. This research center is dedicated to medicinal chemistry from the hit identification to the lead optimization. The activities are highly multidisciplinary, including the research of new hits, the design of computer-aided drug, the organic synthesis of new molecules, the pharmaceutical analysis and physicochemical characterization of new compounds and the experimental evaluation using bioassays. Today, NAMEDIC activities are mainly focused on two research areas: cancer and thrombosis. [More info](#)

### 3. THE NAMUR NANOSAFETY CENTER



The Namur Nanosafety Centre (NNC) is a multidisciplinary platform for the safety assessment of nanomaterials. It relies on a combination of three research activities at the UNamur: [1] materials characterization at the Physics of Matter and Radiation (PMR) - Laboratory of Analysis by Nuclear Reaction (LARN), [2] *in vitro* toxicology at the Laboratory of Cellular and Molecular Biology (URBC) and [3] *in vivo* toxicology at the Pharmacy Department. The NNC has the ambition to be recognized as the reference centre for the nanosafety assessment in Wallonia and in Belgium. [More info](#)

### 4. OMNIBUS ANIMALIBUS STUDIA SANITATIS



The Omnibus Animalibus Studia Sanitatis (OASIS) research group is a joined initiative between the Veterinary Medicine Department of the UNamur and the Diagnostic Imaging Department of the CHU UCL Namur (Godinne). This multidisciplinary group uses the sheep as an animal model to study human and animal diseases, with the final aim to improve human and animal health through translational research. Their main research focus are musculo-skeletal diseases, but other disorders are studied as well, such as cardiovascular diseases.

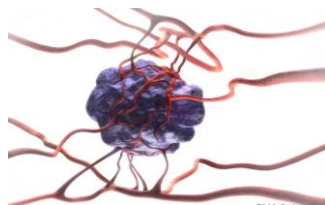
The Ovine Research Center of the UNamur, located at Faulx-les-Tombes, offers a pedigree flock of sheep (more than 400 ewes). It comprises a fully equipped large animal surgical theatre, a laboratory and a space dedicated to assessment of locomotion. The CHU UCL Namur (site Godinne) offers the facilities for conventional (radiography, ultrasonography) and advanced imaging (computed tomography, 1.5T and 3.0T MRI, interventional angiography). [More info](#)

### 5. THE RESEARCH POLE IN INFECTIOLOGY



The Namur Research Pole in Infectiology brings together diverse scientific disciplines (i.e. microbiology, medicinal chemistry, veterinary medicine, cell biology, spatial epidemiology,...), spread over different UNamur research units, but all working directly or indirectly on infectiology topics. The networking of all these researchers within the Namur Research Pole in Infectiology generates an important potential for multidisciplinary collaborations. An additional asset of the pole is its close connection with the clinical Microbiology Laboratory and the Department of Infectious diseases of the CHU UCL Namur - Godinne. [More info](#)

### 6. THE CANCER RESEARCH POLE



The Namur Cancer Research Pole gathers scientific and clinical researchers engaged in different aspects of cancer research, from fundamental research to clinical studies. Cell and organelle biology, radiobiology, molecular cancer biology, gene expression, virus-induced cancers and medicinal chemistry are among the key competences found at the UNamur in the field of cancer research. Innovative and ambitious projects are developed thanks to the participation of clinicians involved in oncology and anti-cancer treatment at the CHU UCL Namur. [More info](#)

### SHARED RESEARCH FACILITIES

Besides the research facilities existing within the [UNamur technological platforms](#), the partnership with the CHU UCL Namur offers access to other resources:

- The **biobank** of the CHU UCL Namur (site Godinne): collection and storage of human biological samples
- ***In vivo* imaging systems** at the Departments of Diagnostic imaging and Nuclear medicine of the CHU UCL Namur (site Godinne)

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