



UNIVERSITÉ  
DE LORRAINE

# HORIZON EUROPE

2026/2027 CALLS

Cluster 1 | Health

Mission Cancer



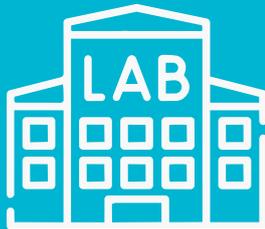
# KEY NUMBERS



over **4,000**  
academic and research staff



over **60,000**  
students working in campuses spread over  
2 metropolises, 12 towns & urban areas



**60** research units  
including **28** joints units

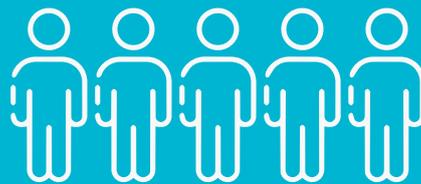


**€720M**  
budget

**35** european  
projects contracted  
in training courses  
and research for an  
estimated grant over  
€16M



over **1,830**  
PHD students



over **9,870**  
international students (1 out of 6)

# INTRODUCTION

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*Dear European partners,*

Located at the heart of Europe, the Université de Lorraine benefits from a unique geographical position that naturally anchors its strategy within the European research and innovation ecosystem. Europe therefore represents a privileged space for international cooperation in research, education, and skills development.

Together with its partners, the Université de Lorraine is strongly committed to engaging in high-level research at the European scale, contributing to European sovereignty, competitiveness, and long-term societal resilience.

Our research activities are structured around six major societal challenges, fully aligned with European research and innovation priorities:

- Materials value chains
- Sustainable management of natural resources
- Energy transition and industrial decarbonisation
  - Industry 5.0 and digital technologies
  - Societal transformations
    - Health

This booklet highlights areas of interest and expertise within our research community and maps them against upcoming Horizon Europe health cluster and Cancer Mission calls.

We warmly invite you to contact our researchers to explore collaboration opportunities within forthcoming calls for proposals. We look forward to working together towards a more sustainable, resilient, and healthier future for Europe.



**Fabrice Lemoine**

VP Stratégie Europe | Université de Lorraine

# TABLE OF CONTENTS

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# ABOUT UNIVERSITÉ DE LORRAINE

## LORRAINE SITE

The vibrant research scene across the Lorraine site is grounded in structured academic partnerships between the Université de Lorraine and the national research bodies CNRS, INRAE, INRIA and INSERM as well as Nancy university hospital (CHRU).

## UNIVERSITÉ DE LORRAINE (UL)

With more than 60,000 students, including nearly 10,000 foreign students, the Université de Lorraine (UL) is one of the largest French public research universities based in Lorraine, Grand Est region, France. UL is part of the Université de la Grande Région (University of the Greater Region), a confederation of 7 universities in Belgium, France, Luxembourg and Germany respectively.

It is the first university in France in terms of engineering and entrepreneurship, and its multidisciplinary research framework brings together some 3,900 researchers in 10 research centres, 60 research laboratories and across 8 doctoral schools. It welcomes 1,800 PhD students, 45 % of whom are international PhD students, representing 90 different nationalities with more than 400 PhD theses defended each year.

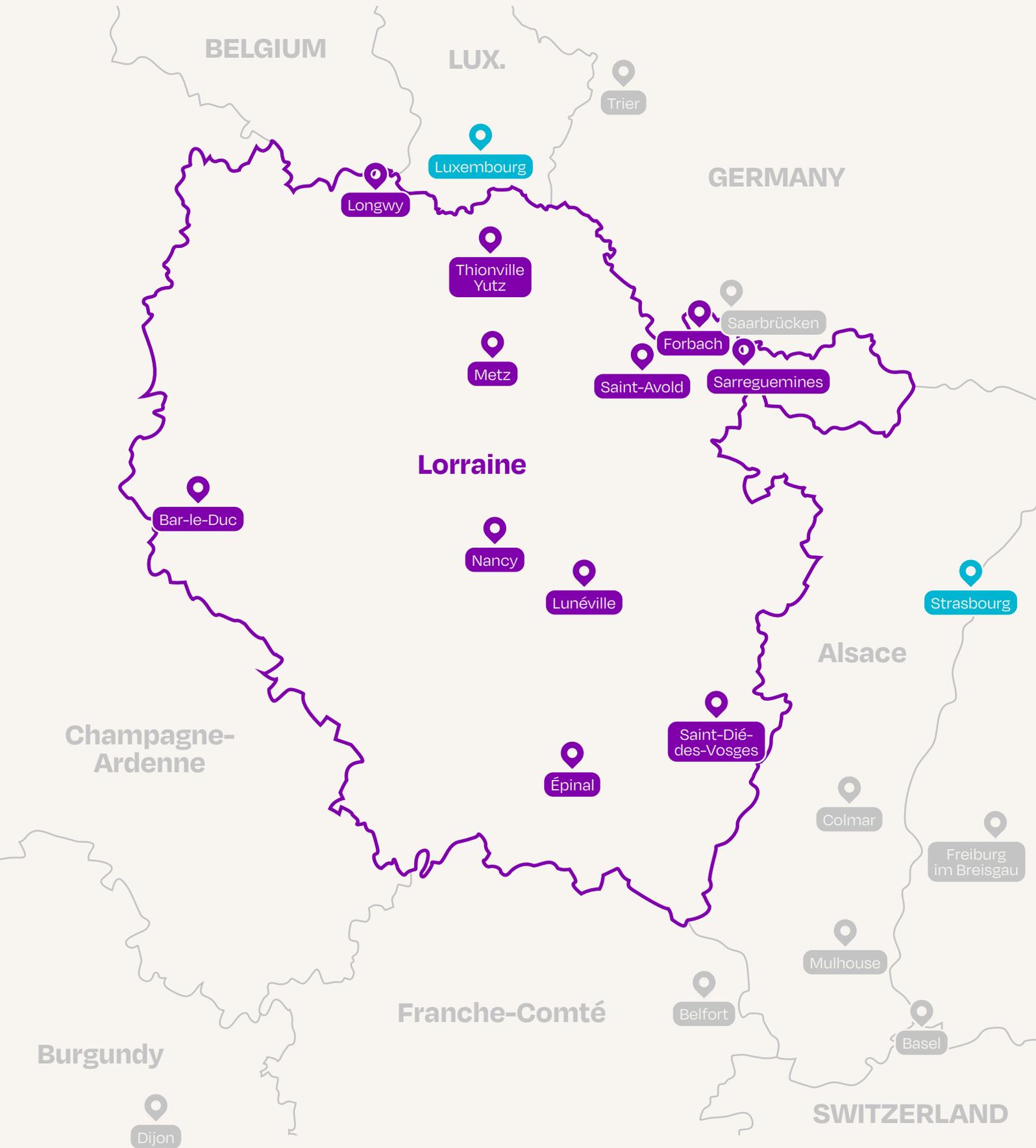
UL owns 220 patent families and hosts plug-in labs which makes it possible to develop and promote the research potential of the Lorraine site. Fundamental and applied research at UL is structured around 8 high-priority thematic areas that are at the heart of our region's strengths:

- Energy sources and energy transition;
- Sustainable resource management, bio-economy;
- Materials, chemistry, processes and products;
- Digital technology, mathematics;
- Health, biology and ageing;
- Cultures, literatures and regions;
- Language and knowledge;
- Contemporary societies: evolution, regulation and experimentation.

Researchers at the Université de Lorraine have successfully participated in 167 projects under Horizon 2020, while they acted as coordinator in 22 of those projects. There are currently 11 ERC projects in progress across the Lorraine site: 6 CNRS, and 5 Université de Lorraine in the fields of energy, biofuels, brain sciences, materials, geosciences, space sciences, mathematics and process engineering.



# WHERE IS UNIVERSITÉ DE LORRAINE



# THE UNITS

## **DCAC** (Université de Lorraine - Inserm) Acute and Chronic Cardiovascular Deficiency

 <https://bms.univ-lorraine.fr/en/constitutive-units/dcac-defaillance-cardiovasculaire-aigue-et-chronique>

 Campus Brabois-Santé (Vandœuvre-lès-Nancy)



Acute and chronic cardiovascular deficiency research unit (DCAC) has a leading position in clinical (aging, telomeres, heart failure, acquired chronic inflammatory vascular diseases and sepsis) and experimental research in mechanotransduction (arterial stiffness), thrombophilias and immunoinflammation (TREM-1 and resolvins). It is structured into two teams: "Vascular stiffness - Inflammation - Thrombosis" and "Personalized Medicine of Heart Failure and Cardiovascular Aging".

## **IADI** (Université de Lorraine - Inserm - CHRU de Nancy) Diagnostic and Interventional Adaptive Imaging

 <https://iadi.univ-lorraine.fr/en/home/>

 CHRU Nancy-Brabois (Vandœuvre-lès-Nancy)



Diagnostic and interventional adaptive imaging research unit (IADI) is a joint research lab between the University and INSERM (since 2009), which develops techniques and methods to improve adaptive imaging, which consists of taking into account the patient physiological movements and/or his organs for image acquisition, reconstruction and processing tasks. The goal is to improve the imaging of moving organs for diagnosis and better understanding of their functioning.

The IADI lab operates in very different fields such as the MRI physics, image acquisition, signal and image processing, methodology and clinical validations. Its fields of applications cover cardiac, abdominal, MSK, woman's imaging and nuclear medicine.

## **INSPIIRE** (Université de Lorraine - Inserm) Interdisciplinarity in Public Health, Interventions & Complex Measuring Instruments

 <https://bms.univ-lorraine.fr/en/constitutive-units/inspiire-interdisciplinarite-en-sante-publique-interventions-instruments-de>

 Campus Brabois-Santé (Vandœuvre-lès-Nancy)



The INSPIIRE unit brings together researchers, post-docs and PhD students from a wide range of public health disciplines to develop, implement and promote interdisciplinary research projects. This original approach, built up over more than a decade, enables to tackle public health problems by filling the gaps of disciplinary approaches. INSPIIRE research purpose is to develop primordial, primary, secondary or tertiary prevention programs and assess their effectiveness and implementation; and to develop and validate measures of perceived health and other latent traits enabling such evaluations to be carried out.

**NGERE** (Université de Lorraine - Inserm)  
Nutrition-Genetics and Exposure to Environmental Risks



 <https://ngere.univ-lorraine.fr/en/home/>

 Campus Brabois-Santé (Vandœuvre-lès-Nancy)

Nutrition-genetics and exposure to environmental risks research unit (NGERE) focuses its research activity on the trajectories of normal and pathological aging, in particular in relation to the metabolism of monocarbons and micronutrients and the epigenome. We are developing preclinical and clinical studies on innovative treatments for rare diseases, steatohepatitis and chronic inflammatory bowel diseases, in collaboration with the companies PAT, Inotrem, Aprofol. At the Grand-Est level, two of our members are coordinators of the FHU ARRIMAGE and CURE respectively.

**IMoPA** (CNRS - Université de Lorraine)  
Molecular and Cellular Engineering and Pathophysiology

 <https://imopa.univ-lorraine.fr/en/imopa-en/>

 Campus Brabois-Santé (Vandœuvre-lès-Nancy)



The research themes addressed by the IMoPA teams cover a variety of areas of expertise, enabling studies to be carried out at the molecular, structural, and cellular levels, or integrated into fundamental research focusing on the biology of RNAs, proteins, including glycoproteins, and various enzyme systems. This first level of research is complemented by :

(i) Multi-disciplinary translational research into cell therapy, regenerative medicine, and chronic inflammatory diseases. This research ranges from the production of clinical-grade stem or immune cells for antiviral, anti-tumor, or immune tolerance induction purposes, to the design of replacement biomaterials for osteoarticular purposes and their characterization using imaging techniques, and includes the study of pathophysiological factors linking inflammatory joint and digestive diseases.

(ii) More recently, research aimed at understanding the healthy and pathological brain mechanisms of human cognition, based primarily on multi-modal and multi-scale studies of clinical populations, particularly drug-resistant epileptic patients.

## **CITHEFOR** (Université de Lorraine) Therapeutic Targets and Preclinical Drug Evaluation

 <https://bms.univ-lorraine.fr/en/constitutive-units/cithefor-therapeutic-targets-and-preclinical-drug-evaluation>

 Campus Brabois-Santé (Vandœuvre-lès-Nancy)



CITHEFOR is a multi-disciplinary, single-thematic research unit dedicated to the development of innovative drugs and advanced therapy medicinal products of pharmaceutical quality, in compliance with current regulatory standards.

The release/bioavailability of active ingredients of plant or human origin is optimized, depending on the administration route and therapeutic application, using particulate formulations or biomaterials authorized by health authorities or derived from human tissues.

The regulation of tissue functions and the pharmacological effects of active ingredients, including the regeneration of barriers and tissue functions, are assessed in cellular, tissue and animal models.

## **DevAH** (Université de Lorraine) Development, Adaptation and Handicap

 <https://bms.univ-lorraine.fr/en/constitutive-units/devah-development-adaptation-and-handicap>

 Campus Brabois-Santé (Vandœuvre-lès-Nancy)



Development-Adaptation-Handicap (DevAH) Research Unit develops its work on narrow themes having as a common denominator the study of integrated systems and developmental determinants of health. Complementarities are important, with transversal projects which create strong cohesion between Researchers. The UR operates with significant interconnections between university components and hospital services, INRS as well as the France and Espoirs du Grand Est centers. This organization guarantees a focus on human research with therapeutic benefits for patients, optimization of cognitive and motor performance and prevention. The Unit benefits from access to 9 Research platforms of different structures.

## **SIMPA** (Université de Lorraine) Stress, Immunity, Pathogens

 <https://simpa.univ-lorraine.fr/indexANG.html>

 Campus Brabois-Santé (Vandœuvre-lès-Nancy)

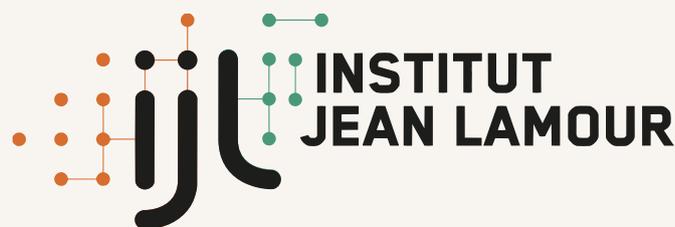


The SIMPA Research Unit, set up in 2013 by Professor Jean-Pol FRIPPIAT, is a CNES and ESA partner laboratory whose primary mission is to elucidate the effects of stresses encountered in space on immunity, microorganisms (bacteria, fungi, microbiota) and the central nervous system, in order to develop countermeasures to prevent the impact of these stresses on humans living in space. Our research also aims to gain a better understanding of the impact of chronic stresses on human health on Earth in the three areas explored, and therefore has a wider societal scope than Space, as stress is omnipresent in our terrestrial societies !

**IJL** (CNRS - Université de Lorraine)  
Institut Jean Lamour

 <https://ijl.univ-lorraine.fr/en>

 Campus Artem (Nancy)



The Institut Jean Lamour (IJL) is a fundamental and applied research laboratory in material science. It is a joint unit (UMR 7198) of the CNRS and Université de Lorraine and it is attached to the CNRS Institute of Chemistry.

It is a multi-thematic laboratory covering materials, metallurgy, nanosciences, plasmas, surfaces and electronics in response to societal challenges such as energy, environment, the industry of the future, mobility, the preservation of resources and health. Its research work ranges from the design of materials to their industrial applications. Its research work is carried out by 25 groups organized into 4 scientific departments and a technological research team. It is supported by 8 technical platforms and 4 support services. The IJL is based in Nancy, on the Artem campus, and a few groups are located on other Nancy campuses as well as in Metz and Épinal.

**CRAN** (CNRS - Université de Lorraine)  
Research Center for Automatic Control

 <https://www.cran.univ-lorraine.fr/en/>

 Faculté des Sciences et Technologies (Vandœuvre-lès-Nancy)



Created in 1980, the "Centre de Recherche en Automatique de Nancy (CRAN)" is a joint research unit (UMR 7039) shared by the Université de Lorraine (UL) and the CNRS "Institut des sciences de l'information et de leurs interactions (INS2I)" and "Institut des Sciences de l'Ingénierie et des Systèmes (INSIS)". It also hosts researchers from the "Lorraine Cancer Institute" (ICL, Centre de lutte contre le cancer), the University Hospital, the Regional Hospital Center of Metz-Thionville and the LIST in Luxembourg-City. As of January 1, 2022, the laboratory has 106 professor-researchers, 4 emeritus, 9 CNRS researchers, 9 other researchers from UL, ICL and CHU or external organizations, 13 post-doctoral fellows, 90 doctoral students and 34 (including 29 permanent and 5 fixed-term contracts) engineers, technicians or administrators. It is part of the Charles Hermite Automatique, Informatique, Mathématiques de Lorraine Research Federation and the Automatique, Mathématiques, Informatique et leurs Interactions (AM2I) scientific pole of the Université de Lorraine. Based on digital sciences, the laboratory is internationally recognized for its activities in the fields of signal and image processing, control and computer engineering, as well as for its work in health in connection with biology and neuroscience. Today, its fundamental and applied research enables it to accompany the changes in society and goes beyond the traditional industrial issues: energy production, management of the intelligent city or transport. In health, it is opening up to diagnosis and care in cancerology and neurology. They are crossing sociology, listening to social behaviors and opinion dynamics, and investing in the field of sustainable development, in the service of the circular economy and ecological systems.

**LEM3** (CNRS - Université de Lorraine - Arts et Métiers)  
Laboratory for the Study of Microstructures and  
Mechanics of Materials



<https://lem3.univ-lorraine.fr/en/accueil-english/>



Laboratoire LEM3 (Metz)



LEM3 is a major player in materials and process mechanics research. Its experimental and theoretical work is transdisciplinary, combining solid mechanics, metallurgy, materials science, chemistry, and physics. It is organized into three scientific departments: (1) Mechanics of materials, structures and living organisms, (2) Engineering of microstructures, processes, anisotropy and behavior, (3) Thermomechanics of processes and tool-material interactions. In addition, there are three technology platforms offering state-of-the-art equipment to support our research activities: MécaRhéo, MicroMat, and Procédés. By maintaining a balance between fundamental and applied approaches, the laboratory ensures high visibility for its cutting-edge research and effective transfer of academic knowledge to industrial partners.

**IBSLor** (Université de Lorraine)  
*IBSLor - Engineering, Biology, Health in Lorraine*



<https://umsibslor.univ-lorraine.fr/en>



Campus Brabois-Santé (Vandœuvre-lès-Nancy)



The mixed service unit Engineering, Biology, Health in Lorraine (UMS2008/US40 IBSLor) provides the scientific community with state-of-the-art technological equipment and unique know-how in the fields of biophysics and structural biology, cytometry, epitranscriptomics, genomics and sequencing, imaging, and proteomics. The core facilities are open to all users belonging to the BMS cluster, the Université de Lorraine, as well as to the academic world and to external industrialists.

# DESTINATION

Staying healthy in a rapidly changing society

**CALLS**

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## HORIZON-HLTH-2027-01-ENVHLTH-02:

Integrating climate-related exposures into the human exposome and characterising its changes in response to climate change

### Frédéric LEMAITRE

DevAH - Development, Adaptation and Handicap  
frederic.lemaitre@univ-lorraine.fr

#### Expertise...

##### ...main areas

- Human physiology.

##### ...project management skills

- Clinical trials on National Agency for Research (ANR) and Fondation de France (FDF) projects.

Organ physiology and pathophysiology

Physiology of exercise

Hypoxia

Apnea

Health

## HORIZON-HLTH-2027-01-ENVHLTH-MISSCLIMA-03:

Tools and technologies to support health adaptation to climate change

### Halima ALEM-MARCHAND

IJL - Institut Jean Lamour  
halima.alem@univ-lorraine.fr

#### Expertise...

##### ...main areas

- Biofunctionalization of surfaces;
- Cancer-on-a-chip systems;
- Biosensors.

##### ...that can be offered

- Biofunctionalization of surfaces;
- 3D bioprinting of cancer models;
- Microfluidic device;
- Biosensors. (FDF) projects.

##### ...specific for this call

- I have coordinated several national and international projects;
- I have assessed European projects.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

Organ on chip

# DESTINATION

Tackling diseases and reducing disease burden

**CALLS**

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# HORIZON-HLTH-2027-02-DISEASE-01-two-stage:

Innovative healthcare interventions for No-communicable diseases

## Frédéric LEMAITRE

DevAH - Development, Adaptation and Handicap  
frederic.lemaitre@univ-lorraine.fr

### Expertise...

#### ...main areas

- Human physiology.

#### ...project management skills

- Clinical trials on National Agency for Research (ANR) and Fondation de France (FDF) projects.

Organ physiology and pathophysiology

Physiology of exercise

Hypoxia

Apnea

Health

## Hélène DUMOND

CRAN - Research Center for Automatic Control  
helene.dumond@univ-lorraine.fr

### Expertise...

#### ...main areas

- Cancer;
- Hormones;
- Systems biology;
- Cellular and molecular biology;
- Endocrine disruption.

#### ...that can be offered

- Spacial biology;
- Brain and breast tumors: impact of patient gender on the natural history of cancer.

Fundamental mechanisms underlying cancer

Gliomas

Hormones

GPCR

Sex-specific differences in cancer

# HORIZON-HLTH-2027-01-DISEASE-08:

Development of innovative antimicrobials against pathogens resistant to antimicrobials

## Xavier MANIVAL

IMoPA - Molecular and Cellular Engineering and Pathophysiology  
xavier.manival@univ-lorraine.fr

### Expertise...

#### ...main areas

- study of the structure/function relationships of RNA/protein particle assembly pathways.

#### ...that can be offered

- cryo-EM RNA biology multiprotein complexes.

Structural biology and its methodologies (e.g. crystallography, cryo-EM, NMR and new technologies) RNA

Protein Structural biology Imaging cryo-EM

## Anne DEBOURGOGNE

SIMPA - Stress, Immunity, Pathogens

### Expertise...

#### ...main areas

- Medical mycology;
- Microgravity stress;
- Galleria mellonella;
- Fusarium;
- New antifungals;
- Antifungal resistance.

#### ...that can be offered

- Use of the Galleria mellonella model in mycology to study virulence or the efficacy of antifungal agents.

#### ...project management skills

- Ongoing clinical research project on hospital activity.

Mechanisms of infection (e.g. transmission, virulence factors, host defences, immunity to pathogens, molecular pathogenesis)

Fusarium Galleria mellonella Antifongiques

## Koffi KOWOUVI

CITHEFOR - Therapeutic Targets and Preclinical Drug Evaluation  
koffi.kowouvi@univ-lorraine.fr

### Expertise...

#### ...main areas

- Pharmaceutical formulation;
- Nanovectors;
- In vitro and ex vivo evaluation.

#### ...that can be offered

- Formulation and characterization techniques (nanocarriers, pharmaceutical forms);
- Design of experiments.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

## HORIZON-HLTH-2027-02-DISEASE-14-two-stage:

Clinical trials for advancing innovative interventions for neurodegenerative diseases

## Thomas CLAUDEPIERRE

NGERE - Nutrition-Genetics and Exposure to Environmental Risks  
thomas.claudepierre@univ-lorraine.fr

### Expertise...

#### ...main areas

- Modeling neuron-glia interactions (purified primary cultures, mouse models)  
Neuroinflammatory approaches to neurodegenerative diseases associated with aging (Alzheimer's disease, glaucoma)  
Neuroprotection and neuroregeneration in the context of nerve trauma  
Role of Müller glial cells in normal and pathological retinas  
Bio-based biomaterials using 3D printing or electrospinning (silk fibroin) for nerve reconstruction

#### ...that can be offered

- Purified cultures of postnatal primary neurons and glial cells;
- 3D printing;
- In vitro nerve modeling.

Neural cell function

Communication and signalling

Neurotransmission in neuronal and/or glial cells

PTSD

# DESTINATION

Ensuring equal access to innovative, sustainable, and high-quality healthcareburden

**CALLS**

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## HORIZON-HLTH-2027-01-CARE-02:

Personalised approaches to reduce risks from Adverse Drug Reactions due to administration of multiple medications

### Halima ALEM-MARCHAND

IJL - Institut Jean Lamour  
halima.alem@univ-lorraine.fr

#### Expertise...

##### ...main areas

- Biofunctionalization of surfaces;
- Cancer-on-a-chip systems;
- Biosensors.

##### ...that can be offered

- Biofunctionalization of surfaces;
- 3D bioprinting of cancer models;
- Microfluidic device;
- Biosensors. (FDF) projects.

##### ...specific for this call

- I have coordinated several national and international projects;
- I have assessed European projects.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

Organ on chip

### Koffi KOWOUVI

CITHEFOR - Therapeutic Targets and Preclinical Drug Evaluation  
koffi.kowouvi@univ-lorraine.fr

#### Expertise...

##### ...main areas

- Pharmaceutical formulation;
- Nanovectors;
- In vitro and ex vivo evaluation.

##### ...that can be offered

- Formulation and characterization techniques (nanocarriers, pharmaceutical forms);
- Design of experiments.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

# DESTINATION

Developing and using new tools, technologies and digital solutions for a healthy society

**CALLS**

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## HORIZON-HLTH-2027-02-TOOL-01-two-stage:

Development of predictive biomarkers of disease progression and treatment response by using AI methodologies for chronic No-communicable diseases

### Halima ALEM-MARCHAND

IJL - Institut Jean Lamour  
halima.alem@univ-lorraine.fr

#### Expertise...

##### ...main areas

- Biofunctionalization of surfaces;
- Cancer-on-a-chip systems;
- Biosensors.

##### ...that can be offered

- Biofunctionalization of surfaces;
- 3D bioprinting of cancer models;
- Microfluidic device;
- Biosensors. (FDF) projects.

##### ...specific for this call

- I have coordinated several national and international projects;
- I have assessed European projects.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

Organ on chip

## HORIZON-HLTH-2027-03-TOOL-02:

Advancing bio-printing of living cells for regenerative Medicine

### Thomas CLAUDEPIERRE

NGERE - Nutrition-Genetics and Exposure to Environmental Risks  
thomas.claudepierre@univ-lorraine.fr

#### Expertise...

##### ...main areas

- Modeling neuron-glia interactions (purified primary cultures, mouse models) Neuroinflammatory approaches to neurodegenerative diseases associated with aging (Alzheimer's disease, glaucoma) Neuroprotection and neuroregeneration in the context of nerve trauma Role of Müller glial cells in normal and pathological retinas Bio-based biomaterials using 3D printing or electrospinning (silk fibroin) for nerve reconstruction

##### ...that can be offered

- Purified cultures of postnatal primary neurons and glial cells;
- 3D printing;
- In vitro nerve modeling.

Neural cell function

Communication and signalling

Neurotransmission in neuronal and/or glial cells

PTSD

## HORIZON-HLTH-2027-03-TOOL-04:

Virtual Human Twins (VHTs) for integrated clinical decision support in prevention and diagnosis

### Cédric LAURENT

LEM3 - Laboratory for the Study of Microstructures and Mechanics of Materials  
cedric.laurent@univ-lorraine.fr

#### Expertise...

##### ...main areas

- Biomechanics;
- Bioengineering;
- Medical devices;
- Medical imaging;
- Obstetrics.

Other medical technologies for diagnosis and monitoring of diseases

## HORIZON-HLTH-2027-03-TOOL-08:

Towards Artificial General Intelligence (AGI) for healthcare

### Halima ALEM-MARCHAND

IJL - Institut Jean Lamour  
halima.alem@univ-lorraine.fr

#### Expertise...

##### ...main areas

- Biofunctionalization of surfaces;
- Cancer-on-a-chip systems;
- Biosensors.

##### ...that can be offered

- Biofunctionalization of surfaces;
- 3D bioprinting of cancer models;
- Microfluidic device;
- Biosensors. (FDF) projects.

##### ...specific for this call

- I have coordinated several national and international projects;
- I have assessed European projects.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

Organ on chip

# MISSION CANCER

**CALLS**

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# HORIZON-MISS-2026-02-CANCER-03:

Pragmatic clinical trials to optimise immunotherapeutic interventions for patients with refractory cancers

## Stefan McMURTRY

IJL - Institut Jean Lamour  
stefan.mc-murtry@cns.fr

### Expertise...

#### ...main areas

- Stefan Mc Murtry is a researcher at the Institut Jean Lamour (IJL) and a member of the Centre National de la Recherche Scientifique (CNRS) in France, specializing in micro- and nanofabrication for healthcare applications. His work centers on developing innovative microcapsules for targeted drug delivery in oncology, addressing limitations of traditional intravenous chemotherapy by enabling localized, sustained release of anticancer agents directly into tumors. He developed microcapsules, based on a top-down microelectronics approach, encapsulate drugs in microscopic structures with micrometric perforations, allowing controlled diffusion over weeks or months while minimizing systemic toxicity and protecting healthy tissues. As cofounder and leader of the nano- and microcapsule research activity at IJL, he has pioneered methods to encapsulate diverse molecules, including chemotherapeutic agents, overcoming challenges in tumor-specific targeting and drug half-life. His inventions, detailed mainly in patents such as WO2023242280A1 for microcapsules with active substance openings enabling slow diffusion, promise to transform oncology by enhancing loco regional treatments efficacy with reduced side effects. <https://www.medicaps.cnrs.fr/>

#### ...that can be offered

- Development and manufacture of capsules containing medication;
- Development and manufacture of needles for inserting the capsules into tissue.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

Capsules

Bio-resorbable capsules

Intra-tumoral treatment

Loco-regional treatment

Cancer

## Véronique DECOT MAILLERET

IMoPA - Molecular and Cellular Engineering and Pathophysiology  
veronique.decot@univ-lorraine.fr

### Expertise...

#### ...main areas

- Cancer immunotherapy;
- Cell therapy.

#### ...that can be offered

- MTI production, GMP scale-up, NK or gamma delta cell-based immunotherapies.

#### ...project management skills

- ANR coordination;
- Partner in the Grand Défi biomedicaments project;
- Partner in the PEPR biotherapy project.

Immunological mechanisms in disease (e.g. autoimmunity, allergy, transplantation immunology, tumour immunology)

Gamma delta T cells

Natural killer cells

Monoclonal antibodies

Immunotherapy

## HORIZON-MISS-2026-02-CANCER-05:

Boosting mental health of young cancer survivors through the European Cancer Patient Digital Centre (ECPDC)

## Frédéric LEMAITRE

DevAH - Development, Adaptation and Handicap  
frederic.lemaitre@univ-lorraine.fr

### Expertise...

#### ...main areas

- Human physiology.

#### ...project management skills

- Clinical trials on National Agency for Research (ANR) and Fondation de France (FDF) projects.

Organ physiology and pathophysiology

Physiology of exercise

Hypoxia

Apnea

Health

## HORIZON-MISS-2026-02-CANCER-06:

Development of a research capacity building programme on cancer with and for Ukraine

### Stefan McMURTRY

IJL - Institut Jean Lamour  
stefan.mc-murtry@cnrs.fr

#### Expertise...

##### ...main areas

- Stefan Mc Murtry is a researcher at the Institut Jean Lamour (IJL) and a member of the Centre National de la Recherche Scientifique (CNRS) in France, specializing in micro- and nanofabrication for healthcare applications. His work centers on developing innovative microcapsules for targeted drug delivery in oncology, addressing limitations of traditional intravenous chemotherapy by enabling localized, sustained release of anticancer agents directly into tumors. He developed microcapsules, based on a top-down microelectronics approach, encapsulate drugs in microscopic structures with micrometric perforations, allowing controlled diffusion over weeks or months while minimizing systemic toxicity and protecting healthy tissues. As cofounder and leader of the nano- and microcapsule research activity at IJL, he has pioneered methods to encapsulate diverse molecules, including chemotherapeutic agents, overcoming challenges in tumor-specific targeting and drug half-life. His inventions, detailed mainly in patents such as WO2023242280A1 for microcapsules with active substance openings enabling slow diffusion, promise to transform oncology by enhancing loco regional treatments efficacy with reduced side effects. <https://www.medicaps.cnrs.fr/>

##### ...that can be offered

- Development and manufacture of capsules containing medication;
- Development and manufacture of needles for inserting the capsules into tissue.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

Capsules

Bio-resorbable capsules

Intra-tumoral treatment

Loco-regional treatment

Cancer

## Hélène DUMOND

CRAN - Research Center for Automatic Control  
helene.dumond@univ-lorraine.fr

### Expertise...

#### ...main areas

- Cancer;
- Hormones;
- Systems biology;
- Cellular and molecular biology;
- Endocrine disruption.

#### ...that can be offered

- Spatial biology;
- Brain and breast tumors: impact of patient gender on the natural history of cancer.

Fundamental mechanisms underlying cancer

Gliomas

Hormones

GPCR

Sex-specific differences in cancer

## HORIZON-MISS-2027-02-CANCER-01:

Leveraging functional genomics to reveal novel targets for cancer treatment

## Hélène DUMOND

CRAN - Research Center for Automatic Control  
helene.dumond@univ-lorraine.fr

### Expertise...

#### ...main areas

- Cancer;
- Hormones;
- Systems biology;
- Cellular and molecular biology;
- Endocrine disruption.

#### ...that can be offered

- Spatial biology;
- Brain and breast tumors: impact of patient gender on the natural history of cancer.

Fundamental mechanisms underlying cancer

Gliomas

Hormones

GPCR

Sex-specific differences in cancer

## HORIZON-MISS-2027-02-CANCER-02:

Clinical research by Comprehensive Cancer Infrastructures for the benefit of patients with common cancers

### Stefan McMURTRY

IJL - Institut Jean Lamour  
stefan.mc-murtry@cns.fr

#### Expertise...

##### ...main areas

- Stefan Mc Murtry is a researcher at the Institut Jean Lamour (IJL) and a member of the Centre National de la Recherche Scientifique (CNRS) in France, specializing in micro- and nanofabrication for healthcare applications. His work centers on developing innovative microcapsules for targeted drug delivery in oncology, addressing limitations of traditional intravenous chemotherapy by enabling localized, sustained release of anticancer agents directly into tumors. He developed microcapsules, based on a top-down microelectronics approach, encapsulate drugs in microscopic structures with micrometric perforations, allowing controlled diffusion over weeks or months while minimizing systemic toxicity and protecting healthy tissues. As cofounder and leader of the nano- and microcapsule research activity at IJL, he has pioneered methods to encapsulate diverse molecules, including chemotherapeutic agents, overcoming challenges in tumor-specific targeting and drug half-life. His inventions, detailed mainly in patents such as WO2023242280A1 for microcapsules with active substance openings enabling slow diffusion, promise to transform oncology by enhancing loco regional treatments efficacy with reduced side effects. <https://www.medicaps.cnrs.fr/>

##### ...that can be offered

- Development and manufacture of capsules containing medication;
- Development and manufacture of needles for inserting the capsules into tissue.

Pharmacology and pharmacogenomics (including drug discovery and design, drug delivery and therapy, toxicology)

Capsules

Bio-resorbable capsules

Intra-tumoral treatment

Loco-regional treatment

Cancer

# CONTACTS

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# CRÉDITS

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