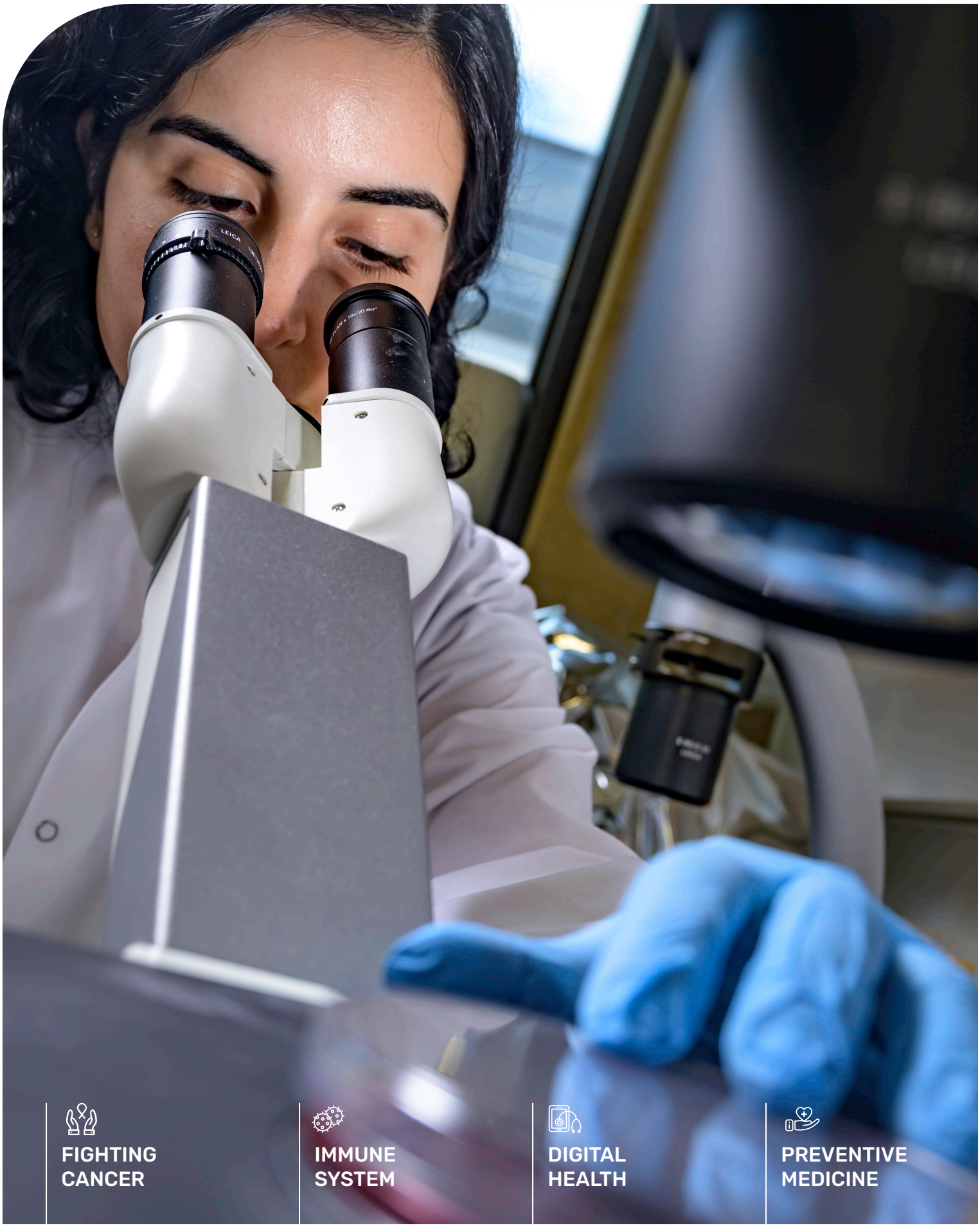
# 2025
# ANNUAL REPORT

LUXEMBOURG
INSTITUTE
OF HEALTH




LUXEMBOURG
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OF HEALTH

2025 ANNUAL REPORT

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**IN THE DIGITAL VERSION**

# Message from the CEO

Dear colleagues, dear partners, dear readers,

The 2025 Annual Report captures the fourth and final year of our Performance Contract with the Ministry of Research. Across all key metrics — publication output, scientific quality, funding secured, and patient enrolment in clinical trials — we have not only met but exceeded the ambitious targets set for this four-year period. This success is a collective achievement, and I sincerely thank all who have contributed.

The extraordinary productivity has extended across all LIH departments and operational platforms. At the Department of Infection and Immunity, key studies advanced oral immunotherapy for allergies, immune-cell movement, the role of brain immune cells in Parkinson's disease and the influence of nutrition on immune homeostasis, opening new avenues for precision health and prevention. The Department of Cancer Research identified an immunotherapy target for leukaemia, contributed to major insights into cancer immunosurveillance evasion and played a key role in the clinical development of a novel drug for adrenocortical cancer that received Orphan Drug Designation from the U.S. Food & Drug Administration (FDA). These achievements show how LIH's mechanistic research can directly benefit patients. In preventive medicine and population health, the Department of Precision Health has effectively managed to combine exposome research, nutrition studies, disease-specific miRNA signatures, electronic patient-reported outcomes and vocal and movement-based digital biomarkers. This has led to vocal biomarkers for COVID-19 fatigue in Long COVID and a high-impact AI-based pilot study on hypoglycemic events. It also allows the department to drive large international consortia studying the impact of nutrition or microRNAs on health. In parallel, LIH recorded a fourfold increase in EU funding over the last four years, with several strategic EU projects anchored at the institute. This reflects the concerted efforts of the Science Office and LIH's ability to recruit leading scientists, such as ATTRACT fellow Dr Johannes Meiser, awarded a prestigious ERC grant in 2023 or Dr Ángel Álvarez-Prado, another ATTRACT fellow who secured a second ERC grant in 2025.

To sustain this momentum, we have worked hard over the last four years to embed our researchers into a real-world data context, strengthening mechanistic research and its impact on patients and society. These efforts are built on IBBL and its integration into the Translational Medicine Operations Hub, which supports clinical trials and provides samples and data to researchers and clinicians. A key milestone in this direction was the 2025 establishment of the Luxembourg Research Clinic (LRC) bringing together the four national hospitals, LIH and the University of Luxembourg within a shared clinical research platform. It bridges research and clinical practice and will allow us to expand beyond the ongoing clinical studies by enabling our clinical partners from the care side. Here I would like to highlight our two flagship programmes: The NCER-PD programme celebrated its 10th anniversary and now includes over 2,000 patients and controls, as well as people at risk of developing Parkinson's Disease or other neurodegenerative disorders. Our flagship Clinnova study, focused on immune-related diseases, reached critical milestones in infrastructure, data management and patient enrolment. As a hallmark decision in 2025, its funding was extended by another five years.

While delivering a rich real-world context for our researchers, these initiatives concretely address patient needs, guiding our vision in which impact on patients and scientific excellence are two mutually reinforcing sides of translational research. Following this strategy, we are building a healthier and brighter future for Luxembourg and beyond.

On behalf of the LIH, I sincerely thank our co-workers, stakeholders, the Ministry of Research and the FNR.

**Prof. Ulf Nehrbass**
Chief Executive Officer

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# Message from the President

Dear friends, dear collaborators, dear readers,

The year 2025 marked my first year serving as President of the Board of the Luxembourg Institute of Health, taking the reins of an established and renowned player both in the national and European biomedical scene. As a medical doctor and Associate Medical Director at the Hôpitaux Robert Schuman, I have a profound appreciation for the transformative potential of biomedical research and its capacity to concretely improve patient care.

During this inaugural year, I have been impressed and inspired by the dedication, curiosity and excellence of the researchers at the LIH, which resulted in the high-quality publications and remarkable achievements depicted in this report. I am honoured to have witnessed the latest developments of the Clinnova digital health flagship programme, a powerful driver of transformation laying the foundations for a more connected and forward-looking healthcare ecosystem. Indeed, through the recent implementation of a shared IT infrastructure and harmonised standard operating procedures between partner hospitals and research institutes, Clinnova is enabling a new level of coherence and quality in data collection. The successful proof-of-concept of a data integration centre in collaboration with the Hôpitaux Robert Schuman marks another important milestone: for the first time, clinical and research data are being securely connected within a real-world hospital environment. I am evidently particularly proud of this collaboration between the two institutions I am privileged to be affiliated with, a partnership which perfectly embodies the way that clinical practice and research should be intertwined.

Another particularly important milestone in 2025 has been the development of the Luxembourg Research Clinic, which brings together research institutes and national hospitals to further strengthen the bond between researchers and clinicians. As a physician myself, I am deeply convinced of the double value of such collaborative initiatives: by facilitating access to existing services and infrastructure, the LRC will make it significantly easier for clinicians to engage in clinical research and connect directly with local researchers in their field. This in turn creates a unique environment where clinical insight and scientific expertise inform one another in real time, accelerating the translation of discoveries into improved diagnosis, treatment, and patient outcomes.

As a geriatrician, I am also especially delighted to witness the innovative and forward-looking work of a dedicated research group on addressing inequalities in cancer diagnosis and treatment in older adults, who are often overlooked in cancer decision-making.

To conclude, I would like to express my gratitude to Dr Gregor Baertz, former President of the Board of Directors, to Prof. Nehrbass and to the entire management for their enlightened leadership, relentless commitment to the success of the institute and for fostering a shared vision that continues to inspire teams across the LIH. It is precisely this passion for knowledge and the motivation of its staff which have led the LIH to where it is today, and which I am confident will take it even further in the years to come.

It is now my mission to build on this legacy and continue establishing meaningful collaborations, driving research that not only expands scientific knowledge but also translates into tangible clinical outcomes for the people of Luxembourg and beyond. I am truly eager to witness the many opportunities that lie ahead of us.

I wish you an insightful and inspiring read.

**Ana Sanchez-Guevara**
President of the Board of Directors

## FIGHTING CANCER

Cytoskeleton and Cancer Progression group

### NEW PUBLICATION SHEDS LIGHT ON HOW CANCER CELLS AVOID THE IMMUNE SYSTEM

In August 2025, researchers from the Department of Cancer Research published a study in the journal *Proceedings of the National Academy of Sciences (PNAS)* that uncovers a novel mechanism cancer cells use to escape detection by the immune system.

The team, from the Cytoskeleton and Cancer Progression group led by Clement Thomas, found that tumour cells can rapidly reposition inhibitory molecules to the interface where they contact Natural Killer (NK) cells, effectively dampening the immune attack. This reorganisation is driven by actin filaments within the cancer cell, allowing these inhibitory signals to accumulate precisely at the immunological synapse just minutes after contact. Blocking this actin-mediated transport restored NK cell activity in preclinical models, enabling immune cells to kill cancer cells more effectively.

This discovery sheds light on the dynamic strategies tumours use to avoid immune destruction and highlights potential targets for therapies aimed at enhancing immune-mediated cancer clearance.

### LIH IDENTIFIES A PROMISING IMMUNOTHERAPY TARGET FOR INCURABLE LEUKAEMIA

Researchers from the Tumor Stroma Interactions group at the LIH, working with the German Cancer Research Center, identified a potential new target for immunotherapy in Chronic Lymphocytic Leukaemia (CLL), the most common adult blood cancer in Europe, which remains incurable despite treatment advances.

Their study, published in August 2025 in *Nature Communications*, shows that the protein galectin-9 suppresses the function of T cells, which are crucial for the body's immune response to cancer. Galectin-9 is released in large quantities by leukaemic cells and interacts with the TIM-3 receptor on T cells, acting as a brake on immune activity.

In preclinical models, blocking galectin-9 revived exhausted T cells and slowed tumour growth, suggesting a novel therapeutic approach. Because galectin-9 is also overexpressed in other tumour types, this strategy could have broad applications. The research also highlights additional molecular targets for future investigation.

Tumor Stroma Interactions group

## LIH CONTRIBUTES TO RESEARCH SUPPORTING THE DEVELOPMENT OF INNOVATIVE CANCER THERAPY

Researchers from the Tumor Immunotherapy and Microenvironment (TIME) group at the LIH are collaborating with Cytovation ASA, a Norwegian biotech company developing CY-101, an innovative cancer immunotherapy. Within this collaboration, the TIME group contributes to research efforts supporting the understanding of CY-101's biological activity. The collaboration takes place within the Eurostars project, co-funded by the European Partnership on Innovative SMEs (Eurostars) program and the Luxembourg National Research Fund (FNR).

CY-101 has shown promising results in preclinical studies as well as in a Phase 1/2a clinical trial conducted by Cytovation and its clinical partners in patients with advanced solid tumors, including adrenocortical carcinoma (ACC). Based on these findings, Cytovation obtained Orphan Drug Designation (ODD) from the U.S. Food and Drug Administration (FDA) for CY-101 for the treatment of ACC, a rare and aggressive endocrine cancer with limited therapeutic options and has secured a clinical research collaboration with Cancer Research UK, one of the world's leading funders of cancer research.


Dr Bassam Janji

*"The FDA Orphan Drug Designation and the collaboration with Cancer Research UK represent important milestones in the development of this unique therapeutic approach for patients with limited treatment options. We are pleased to continue collaborating with Cytovation and to contribute to research efforts aimed at improving the understanding of CY-101's mechanism of action and supporting its ongoing development"*

**DR BASSAM JANJI**
Leader of the TIME group
at the Department of Cancer Research


Dr Ángel Álvarez-Prado

## DR ÁNGEL ÁLVAREZ-PRADO SECURES PRESTIGIOUS EU GRANT TO ADVANCE BRAIN CANCER RESEARCH

In September 2025, the LIH secured a prestigious European Research Council (ERC) Starting Grant to fund a new five-year research initiative called IMMUNAGENOMICS. This project, led by Dr Ángel Álvarez-Prado, Principal Investigator at the Translational Cancer Immunogenomics group, will study how ageing and genetic variation shape the immune environment of metastatic brain tumours, with the aim of developing personalized therapies and improving outcomes for patients.

Brain metastases affect up to 40% of cancer patients and are associated with poor prognoses, despite recent advances in treatment. By integrating advanced genomics, immunology and cancer biology techniques such as single-cell RNA sequencing and spatial transcriptomics, the team hopes to gain a detailed understanding of tumour-immune interactions across different age and genetic backgrounds. The grant highlights the role of the LIH as a European leader in cancer immunology research.

## ADVANCING GLOBAL UNDERSTANDING OF WOMEN'S CANCER CARE

In December 2025, *The Lancet* published the VENUSCANCER study, which provides a global picture of care for women diagnosed with breast, cervical and ovarian cancers.

The research, in which the EPICAN group of the LIH led by Dr Claudine Backes participated, analysed high-resolution data from over 250,000 women across 39 countries, diagnosed between 2015 and 2018, including also data from the Luxembourg National Cancer Registry. It examined cancer stage at diagnosis, staging procedures, treatments received and biomarkers to understand global variations in care and outcomes.

Findings revealed notable inequalities: women in low- and middle-income countries are far less likely to be diagnosed early and to receive guideline-consistent treatment than those in high-income countries, with substantial differences also associated with age and healthcare access. The study underscores the need for tailored clinical guidelines and early detection efforts to reduce disparities worldwide.

## EUROPE LAUNCHES CANCERWATCH TO STRENGTHEN CANCER DATA FOR POLICY AND CARE

In September 2025, the European Union officially launched CancerWatch, a new Joint Action designed to transform how cancer data are collected, harmonised and used across Europe, with a kick-off event held in Oslo, Norway.

CancerWatch brings together 92 partner organisations from 29 countries, including the EPICAN group of the LIH led by Dr Claudine Backes and the National Cancer Registry of Luxembourg, under the coordination of the Norwegian Institute of Public Health. Its purpose is to improve the quality, completeness and timeliness of data from population-based cancer registries so that high-quality statistics feed the European Cancer Information System, a central resource for monitoring incidence, survival and inequalities under Europe's Beating Cancer Plan.

This EU Joint Action will support cancer registries with digital innovations, harmonise data standards, develop solutions to legal and GDPR challenges, and prepare for integration into the European Health Data Space. Reliable, up-to-date cancer intelligence is expected to enhance prevention, early detection, treatment evaluation and policy-making throughout the EU.

## LIH REPORT CONFIRMS VALUE OF NATIONAL MAMMOGRAPHY PROGRAMME

In January 2025, the Directorate of Health and the EPICAN Cancer Epidemiology and Prevention Group at the LIH jointly published the first evaluation of Luxembourg's national organised breast cancer screening, the Mammography Programme (PM). For the assessment a new method was developed, linking data from the National Cancer Registry with PM records to measure screening effectiveness.

The study shows that cancers detected through the PM are generally identified at earlier stages, are smaller and less likely to have spread to lymph nodes compared with those found outside the programme, underlining the benefit of early detection for treatment outcomes and prognosis. The double-reading of mammograms by two independent radiologists improves cancer detection and reduces false positives, cutting additional tests and emotional stress.

EPICAN group

NORLUX group

## LIH NEURO-ONCOLOGY TEAM CONTRIBUTES TO LANDMARK STUDIES IN *NATURE GENETICS*

In May 2025, the NORLUX Neuro-Oncology team played a key role in an international collaboration that resulted in two publications in *Nature Genetics.* These studies, conducted by the CARE consortium, uncover how glioblastoma tumour cell states co-evolve with their surrounding tumour microenvironment, giving rise to heterogeneous and complex cellular niches.

By analysing matched primary and recurrent tumours at the single-cell level, the team demonstrated that the molecular evolution of tumour cells upon recurrence is closely linked to histopathological changes and the dynamic composition of microenvironmental niches.

This breakthrough was made possible through extensive international collaboration and access to unique patient cohorts, including LIH's PRECISION-PDX study.

## LIH AND BIOCODEX JOIN FORCES TO IMPROVE CANCER TREATMENT

In February 2025, the LIH and Biocodex announced a strategic partnership to advance precision oncology and drug development. The collaboration combines the translational research expertise of the LIH and Biocodex's pharmaceutical development capabilities to accelerate innovative cancer therapies.

The partnership will leverage the Personalized Functional Profiling platform at the LIH, developed within its Precision Medicine Technology Unit, to evaluate Biocodex drug candidates using patient derived cancer models such as organoids and spheroids. This approach enables functional testing directly on tumor specific material, improving prediction of treatment response and strengthening the translational relevance of preclinical findings.

By integrating advanced functional profiling into early drug development, the initiative aims to improve the efficiency and clinical applicability of targeted therapies, ultimately contributing to more personalized and effective cancer treatment strategies.

## EARLY INSIGHTS FROM COLIVE CANCER'S BREAST CANCER SURVEY REVEALED

In January 2025, the LIH published preliminary findings from the national Colive Cancer survey, part of the Plan National Cancer (PNC2), which focuses on the experiences of 100 women living with or after breast cancer. The survey participants, with an average age of 50, mostly reside in Luxembourg and reported positively on their care experience overall, with an average score of 8 out of 10 for the communication of diagnosis and support received. Around 80% of respondents felt satisfied with the information provided by their healthcare teams, and a substantial majority were offered psychological support and holistic care resources such as physiotherapy and sports programmes.

A key area for improvement identified in the survey was the need for more detailed information about treatment side effects, highlighting potential gaps in patient education.

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ABOUT CANCER RESEARCH


## LIH RESEARCHERS HELP CRACK THE CODE OF CELLULAR GPS

In May 2025, scientists from the LIH significantly contributed to a major international study published in *Cell* that reveals how immune cells navigate through the body using complex chemical signals. The research deciphers how chemokines and their receptors, known as GPCRs, function as encrypted navigation cues that direct immune cell movement, with wide-ranging implications for cancer therapy, infection response and precision medicine.

Researchers from the Immuno-Pharmacology and Interactomics group, led by Dr Andy Chevigné and Dr Martyna Szpakowska, played a central role in experimentally validating how tiny, disordered protein regions act as “digital encryption keys” that determine specific cell responses. Their work was supported by the in-house NanoLux platform, enabling precise investigation of ligand-receptor interactions and signaling.

The findings pave the way for engineering immune cells that can be guided to precise targets such as tumours or infection sites, and for designing therapeutic proteins that modulate immune responses with high specificity.

Dr Martyna Szpakowska and Dr Andy Chevigné

*“It’s incredibly exciting to see how these short, unstructured and often overlooked protein segments actually hold the key to highly selective cell communication”*

**DR ANDY CHEVIGNÉ**

Co-leader of the Immuno-Pharmacology and Interactomics group

## ACTIVATING THE INNATE IMMUNE SYSTEM TO FIGHT DRUG-RESISTANT BACTERIA

In September 2025, researchers from the Infection and Immunotherapy Research group at the LIH published a study in *eBioMedicine* on innovative approaches to fight multidrug-resistant bacteria by harnessing the innate immune system.

The team focused on *Pseudomonas aeruginosa*, a pathogen increasingly resistant to antibiotics and responsible for severe infections in hospitalised and immuno-compromised patients. They developed novel complement-activating multimeric immunotherapeutic complexes (CoMiX) that target the bacterium by stimulating the complement system, a key arm of innate immunity.

In a preclinical pneumonia model, intranasal administration of CoMiX reduced bacterial load and enhanced immune response by increasing complement activation and recruiting neutrophils to the lungs. This proof-of-concept suggests that directed activation of innate immune pathways could offer a rapid and promising therapeutic avenue against multidrug-resistant pathogens and potentially other infectious agents. Future studies will focus on long-term efficacy and any potential off target effects.


Prof. Dirk Brenner

## LIH REVIEW HIGHLIGHTS EARLY ROLE OF MICROGLIA IN PARKINSON'S DISEASE

Researchers from the LIH Neuro-Immunology group and the University of Luxembourg published a review article in May 2025 in the *Journal of Neuroinflammation* exploring how the brain's immune cells, known as microglia, contribute to the earliest stages of Parkinson's disease, long before typical motor symptoms appear.

The article investigates how microglial activation and immune dysfunction may drive disease progression. It emphasises emerging evidence that immune interactions in the brain's innate defence system are integral to the onset and advancement of Parkinson's disease.

The review also discusses advances in neuroimaging, experimental models and biomarker research that are improving scientists' ability to track microglial activity and immune changes. Such tools could be crucial in identifying individuals at risk and developing early, personalised interventions that may slow or alter disease progression.

## NEW SPOTLIGHT IN CELL METABOLISM REVEALS HOW MACROPHAGES RECYCLE BACTERIAL NUTRIENTS

In May 2025, a *Spotlight* article by Prof. Dirk Brenner, head of the Experimental & Molecular Immunology group at the LIH, and Andrea Riviello, a graduate student in the Translational & Clinical Immunology group, was published in *Cell Metabolism*. The piece highlights a study that explores how macrophages process bacteria.

The research demonstrates that bacterial components are not simply degraded for disposal but are recycled to support macrophage metabolism and biosynthesis. This discovery uncovers a novel connection between innate immune defence and cellular metabolic programming, emphasising how immune cells can repurpose nutrients to sustain their function.

In their article, Brenner and Riviello discuss the broader implications for immunometabolism, host-pathogen interactions, and potential therapeutic strategies aimed at modulating immune cell activity.


Prof. Mahesh Desai

## LIH REVIEW REVEALS THE HIDDEN DYNAMICS OF GUT MICROBES

In August 2025, scientists from the Department of Infection & Immunity published a comprehensive review in *Mucosal Immunology* that shines a light on the largely uncharted world of gut microbes living in the mucus layer of the colon. The article, *Living on the edge: Mucus-associated microbes in the colon*, was authored by Mihovil Joja, Erica Grant and Prof. Mahesh Desai of the Nutrition, Microbiome & Immunity group.

The review explores how these mucus-dwelling bacteria interact with the gut barrier and influence health and disease, including the delicate balance between protective and harmful microbial activity. It highlights advanced tools like spatial imaging, microdissection and multi-omics for studying these organisms, and discusses how diet, antibiotics and immune factors shape this complex ecosystem.

Importantly, the authors categorise mucus layer microbes into different nutrient strategies and note that standard stool-based analyses often miss them, underscoring the need for better sampling and translational research to harness microbiome-based therapies.

## GLOBAL EXPERTS SET STANDARDS FOR GUT MICROBIOME RESEARCH

In July 2025, a global panel of scientists published new consensus guidelines aimed at improving research and therapeutic development related to the gut microbiome. The report, co-authored by Prof. Mahesh Desai from the Nutrition, Microbiome & Immunity group, appeared in *Nature Reviews Gastroenterology & Hepatology* and reflects an EU-supported collaborative effort.

The guidelines emphasise that, given the complexity of the gut microbiome and its links to conditions such as inflammatory bowel disease, obesity, type 2 diabetes and liver disease, no single preclinical model is sufficient on its own. Instead, researchers should integrate complementary systems like germ-free animals, organoids and organ-on-a-chip to strengthen causal insights and clinical relevance.

Dietary approaches and pre-/postbiotics were identified as promising therapeutic strategies, while support for probiotics and faecal transplants was mixed. The guidelines call for greater standardisation, multi-omics integration and development of models that more accurately reflect human biology.

## LIH EDITORIAL HIGHLIGHTS GUT IMMUNE ENVIRONMENT IN PEANUT ALLERGY AND ORAL IMMUNOTHERAPY

In October 2025, an editorial by Dr Annette Kuehn, Co-Head of the Molecular & Translational Allergology group, and collaborators from Austria, was published in the journal *Allergy*, the leading journal in the field of allergy research. The article argues that the gastrointestinal immune system is an underappreciated factor in the success of oral immunotherapy (OIT) for peanut allergies.

While OIT is one of the most promising approaches to desensitise individuals with food allergies, the authors note that outcomes vary widely between patients. They propose that differences in the gut immune environment, including mucosal barrier integrity, networks of immune cells and the gut microbiome, may explain variability in treatment response. Integrating gut immune parameters into clinical research, they suggest, could lead to a deeper understanding of immune tolerance and improve the effectiveness and safety of OIT and other food allergy therapies.

Dr Christiane Hilger

## FIGHTING ALLERGIES WITH PRECISION: HOW OMICS ARE CHANGING CLINICAL PRACTICE

In September 2025, a new position paper published by the European Academy of Allergy and Clinical Immunology (EAACI), with participation from Dr Christiane Hilger, Co-Head of the Molecular & Translational Allergology group at the LIH, outlined how high-dimensional “omics” technologies are reshaping allergy diagnosis and treatment.

The review highlights that combining data from genomics, proteomics, transcriptomics, metabolomics and cytomics with clinical information can refine disease classification and identify biomarkers that support personalised care for conditions such as asthma, atopic dermatitis, allergic rhinitis, food allergies and drug hypersensitivity. This molecular insight is helping to recognise distinct subtypes of allergic diseases rather than treating them as uniform disorders, potentially enabling more targeted therapies.

Despite the promise of omics approaches, challenges remain in their translation into routine clinical practice, including issues of cost, data complexity, sample standardisation and regulatory hurdles. The paper calls for collaborative efforts and harmonised protocols to overcome these barriers and realise the potential of precision allergy medicine in daily patient care.

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IMMUNE-MEDIATED DISEASES

## DIGITAL HEALTH

### CLINNOVA: A CORNERSTONE OF LUXEMBOURG'S PATIENT-CENTRIC RESEARCH INFRASTRUCTURE

In 2025, LIH's flagship digital health initiative Clinnova completed its Phase 1 operations. Leveraging the expertise of over 120 experts from four partner institutions, this phase led to the implementation of a shared IT infrastructure and standard operating procedures enabling harmonised data collection and the execution of the scientific use cases in inflammatory bowel disease (IBD), rheumatic diseases and multiple sclerosis (MS) across European partner sites.

Building on this infrastructure, more than 240 patients have been recruited across the consortium, including 161 in the IBD cohort and 75 in the MS cohort, and over 8,000 biological samples have been collected to date. Patient recruitment for the third disease use case, rheumatoid arthritis, began in late 2025. In Luxembourg, Clinnova has established a Prototype Data Integration Centre, successfully delivering a proof-of-concept for secure data integration with Hôpitaux Robert Schumann (HRS), enabling the connection of clinical and research data in a real-world hospital setting.

With the transition to Phase 2, Clinnova's infrastructure and processes will be scaled nationally through their integration into the Luxembourg Research Clinic. At the same time, its data integration centre and clinical trial toolbox will contribute to the establishment of a secure, interoperable clinical research data network connecting hospitals nationwide.

The Luxembourg part of Clinnova is funded by the Luxembourg National Research Fund (FNR) in the framework of the National Centres of Excellence in Research (NCER) programme.

MORE THAN
**240**
PATIENTS RECRUITED

OVER
**8,000**
BIOLOGICAL SAMPLES COLLECTED

## LIH CONTRIBUTES TO NEW EU EFFORT TO IMPROVE ACCESS TO CANCER DATA

In July 2025, the LIH announced its participation in CANDLE, a newly launched EU funded initiative aimed at improving access to cancer data for research and healthcare across borders. As part of this project, the Department of Medical Informatics (DMI) at the LIH is helping to develop National Cancer Data Nodes: secure, interoperable infrastructures designed to make cancer-related datasets more findable, shareable and reusable.

The DMI's role focuses on understanding the needs of researchers and clinicians and addressing technical and legal challenges to cross-border data sharing, ensuring that these systems meet real-world requirements and align with the emerging European Health Data Space (EHDS).

CANDLE also supports broader EU goals, including the EU Mission on Cancer, by fostering collaboration among health authorities, research bodies and patient groups to strengthen data sharing, improve access and accelerate data-driven cancer research across Europe.

*"Our role in CANDLE is to help guarantee that the infrastructure reflects real-world needs while safeguarding trust and compliance. By contributing our expertise in medical informatics, we support the broader goal of enabling more effective, data-driven cancer research across Europe"*

**MAXIMILIAN FÜNFGELD**

Director of the Department of Medical Informatics

## LIH AND PARTNERS LAUNCH LARGE-SCALE STUDY OF AT-HOME, ROBOT-LED SUPPORT FOR AUTISTIC CHILDREN

In December 2025, LuxAI, the LIH, and the University of Birmingham launched the world's first large-scale, longitudinal scientific study of at-home, robot-led early development support for autistic children using QTrobot, a socially assistive humanoid robot. The initiative will involve 69 families and is expected to conclude by the end of 2026, making it the first study of its kind.

Funded jointly by the Luxembourg National Research Fund and the Ministry of Economy, the research will assess how QTrobot can support developmental areas such as communication, language, social skills and learning in children aged 2.5–4.5 years through interactive games and guided activities adapted to each child's pace.

The study marks a major advance in early autism intervention and digital health innovation by evaluating whether socially assistive robots can improve access to and quality of early developmental support within the child's home environment.

## LIH LEADS MAJOR EUROPEAN INITIATIVE ON VOICE-BASED HEALTH TECHNOLOGIES

In June 2025, the LIH announced its coordination of eVoiceNet, the European Network to Advance the Development and Implementation of Vocal Biomarkers, funded under the European Cooperation in Science and Technology (COST) programme.

Bringing together more than 160 partners from 40 countries, eVoiceNet aims to make Europe a global leader in the emerging field of vocal biomarkers, health-related features extracted from a person's voice that can help detect, monitor and manage a wide range of conditions, from neurological and mental health disorders to respiratory and cardiovascular diseases.

The initiative, led by Dr Guy Fagherazzi of the Deep Digital Phenotyping Lab, is building an interdisciplinary network of clinicians, AI researchers, voice experts, legal specialists, patient groups and industry stakeholders. Over the next four years, the consortium will develop guidelines, best practices, privacy-preserving principles, training tools and resources to support trustworthy development and clinical adoption of vocal biomarkers and foster innovation in voice-based digital health technologies across Europe.

Dr Guy Fagherazzi


BraINE group

## FEDERATED LEARNING BOOSTS BRAIN TUMOUR SEGMENTATION MODELS

In July 2025, LIH researchers reported significant progress in using federated learning (FL) to improve brain tumour segmentation models in medical imaging. FL allows multiple institutions to collaboratively train AI models on decentralised data sets without sharing sensitive patient data, addressing privacy concerns inherent in healthcare research.

The LIH BraINE group, led by Dr Olivier Keunen with Dr Ann-Christin Hau and Prof. Simone Niclou, contributed to the Federated Tumour Segmentation (FeTS) initiative, a global effort involving dozens of sites spanning six continents. The latest FeTS challenge results, published in *Nature Communications*, benchmarked FL and segmentation techniques across 32 centres, demonstrating good generalisation overall while highlighting the importance of multi-site validation for robustness.

*"At BraINE, we are proud to be involved in initiatives that are shaping the future of medical AI, addressing some of its key data accessibility challenges"*

**DR OLIVIER KEUNEN**

Head of the BraINE group

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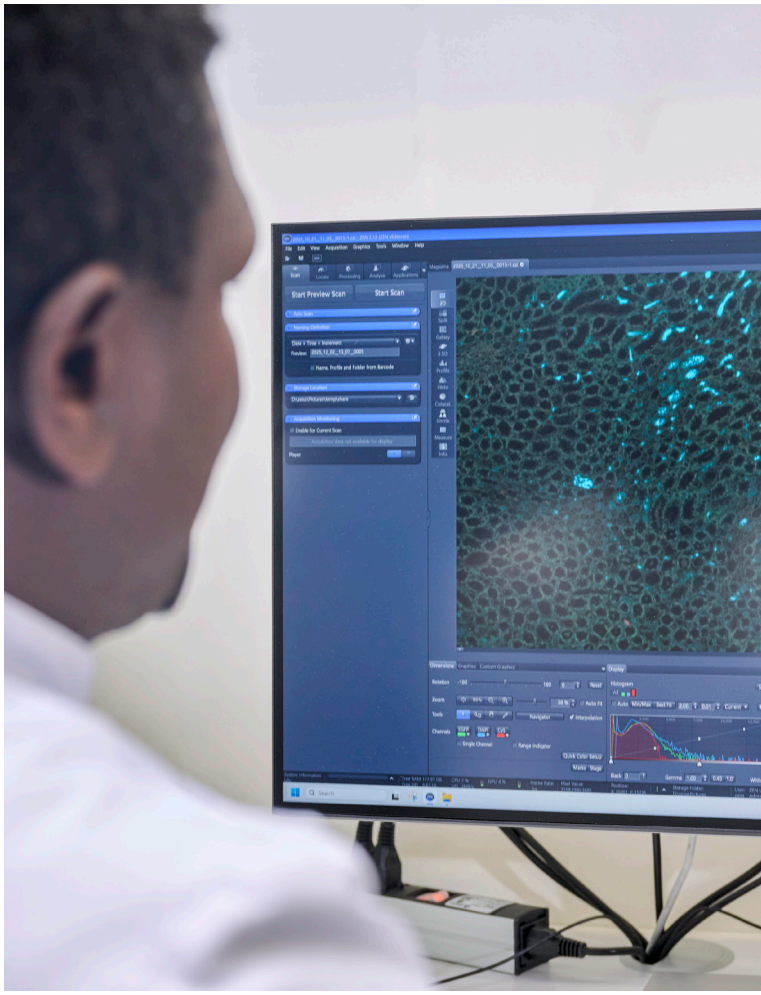
## GLOBAL LAUNCH OF THE INTERNATIONAL HEALTH DATA SPACE INITIATIVE TO ACCELERATE PRECISION MEDICINE

In July 2025, a global consortium chaired by the LIH and the National Cancer Center in South Korea launched the International Health Data Space Initiative (IHDSI), a major collaboration spanning research and technology institutions from Luxembourg, the USA and South Korea.

The initiative aims to build a federated, secure and privacy-compliant infrastructure to enable integrated access to health data for joint clinical research, translational innovation and AI-driven analytics, initially focusing on precision medicine in cancer and other complex diseases. IHDSI is designed to overcome traditional health data silos while complying with the European Health Data Space and GAIA-X standards, enabling multi-national collaboration without compromising patient privacy. Initial projects focus on the development of a federated data connector architecture that enables secure, governed access to patient data within local environments, allowing distributed analytics and cross-border research without the need to transfer or centralise sensitive health information.



## NEW MALARIA VACCINE TRIAL LAUNCHED BY THE LIH BRINGS RENEWED HOPE FOR IMPROVED PROTECTION

In October 2025, the LIH played a key role in launching a new clinical trial for the malaria vaccine candidate SUM-101 as part of the MIMVAC-Africa project, funded by the European & Developing Countries Clinical Trials Partnership (EDCTP2). The study, conducted in Burkina Faso and Tanzania, aims to address the global need for more effective and longer-lasting protection against malaria, particularly in high-burden regions.

The Competence Centre for Methodology and Statistics (CCMS) led by Michel Vaillant at the LIH is contributing its clinical trial expertise, including data management, biostatistics and methodological support, ensuring scientific rigour throughout the study.

If successful, SUM-101 could pave the way for larger Phase II and III trials and potentially lead to new vaccine tools that offer stronger and longer-lasting protection against one of the world's deadliest diseases.

## LIH RESEARCH HIGHLIGHTS THE ENVIRONMENTAL DRIVERS OF CHRONIC DISEASE RISK

Researchers at the LIH are advancing research on how environmental exposures affect chronic disease risk through both European collaborations and population studies.

In January 2025, the LIH joined the EU-funded MARKOPOLO project, coordinated by Andreas Daiber at the University Medical Centre Mainz. Supported by €8 million in EU funding, the four-year initiative investigates how traffic noise and air pollution contribute to cardiovascular, cerebrovascular, metabolic, and other health conditions. The LIH contributes multi-omics data analysis via the Multiomics Data Science group and Bioinformatics and AI unit led by Dr Petr Nazarov to identify biological mechanisms, disease pathways and biomarkers linked to these exposures.

Complementing this work, researchers from the LIH CARES group led by Dr Maria Ruiz-Castell reported in November 2025 in *Science of The Total Environment* that mixtures of environmental chemicals are associated with higher metabolic health risks. Using data from more than 600 adults in the European Health Examination Survey in Luxembourg, the study linked combined exposure to pollutants with increased likelihood of metabolic syndrome, high blood pressure and elevated blood sugar.

Bioinformatics and AI unit

CARES group

## LIH RESEARCHERS INVESTIGATE THE IMPACT OF POLLUTION ON HEART AND BRAIN HEALTH

Researchers from the LIH are shedding light on how environmental pollutants affect human health, from cardiovascular disease to brain ageing. In January 2025, scientists from the Human Biomonitoring Research Unit (HBRU), including Brice Appenzeller and Alba Iglesias González, together with partners from Imperial College London and the University of Liège, published findings in Environment International linking long-term exposure to pollutants with increased cardiovascular risk factors. Using hair samples from 612 participants in Luxembourg's NESCAV survey, the study associated exposure to polycyclic aromatic hydrocarbons (PAHs) and passive tobacco smoke with higher rates of diabetes, hypertension and metabolic disturbances.

Building on this work, the HBRU is also involved in the EU-funded ExpoSignalz project investigating how environmental contaminants contribute to brain ageing and neurodegenerative diseases such as Alzheimer's disease. Led by INSERM and funded through Horizon Europe, the initiative aims to identify harmful pollutants and improve early diagnosis and prevention strategies.

## LIH JOINS EU'S EMPOWER PROJECT TO IMPROVE CHRONIC DISEASE MANAGEMENT IN WEST AFRICA

In March 2025, the LIH announced its participation in the new Horizon Europe EMPOWER project, formally titled Empowering People Living with Chronic Disease and Frontline Health Workers to Tackle the Burden of Chronic Diseases in Sub-Saharan Africa. The initiative, part of the Global Alliance for Chronic Diseases programme, aims to improve the management of non-communicable diseases such as hypertension and diabetes in Benin and Togo by empowering frontline health workers in evidence-based strategies using digital tools.

With a total budget of €4.8 million and a four-year timeline starting in September 2025, EMPOWER will strengthen community-based activities and coordinated care delivery. The Ageing, Cancer, and Disparities Research Unit at the LIH is leading the evaluation and monitoring of the intervention implementation, with group leader Dr Sophie Pilleron, Dr India Pinker and Dr Clémence Bafei at the forefront.

Registries & Epidemiological Studies group

## INTERNATIONAL SURVEY REVEALS STRENGTHS AND CHALLENGES OF LUXEMBOURG'S HEALTHCARE SYSTEM

In February 2025, the Registries & Epidemiological Studies group (RES) led by Aline Lecomte, in collaboration with the Direction de la Santé, published results from the OECD PaRIS Survey, an international survey assessing public perceptions of national healthcare systems. In Luxembourg, 1,590 patients and 52 medical practices participated.

Overall satisfaction with care in Luxembourg was found to be very strong. Over 90% of respondents rated the quality of care positively and said healthcare services met their needs, above the OECD average. Participants also reported good health, with 72% indicating good physical health and 86% good mental health.

However, the survey also highlighted areas that need improvement. Patients reported challenges in managing their own health and pointed to limited coordination of care for chronic conditions. Improving health literacy and better integrating services could also strengthen support for people living with chronic diseases.

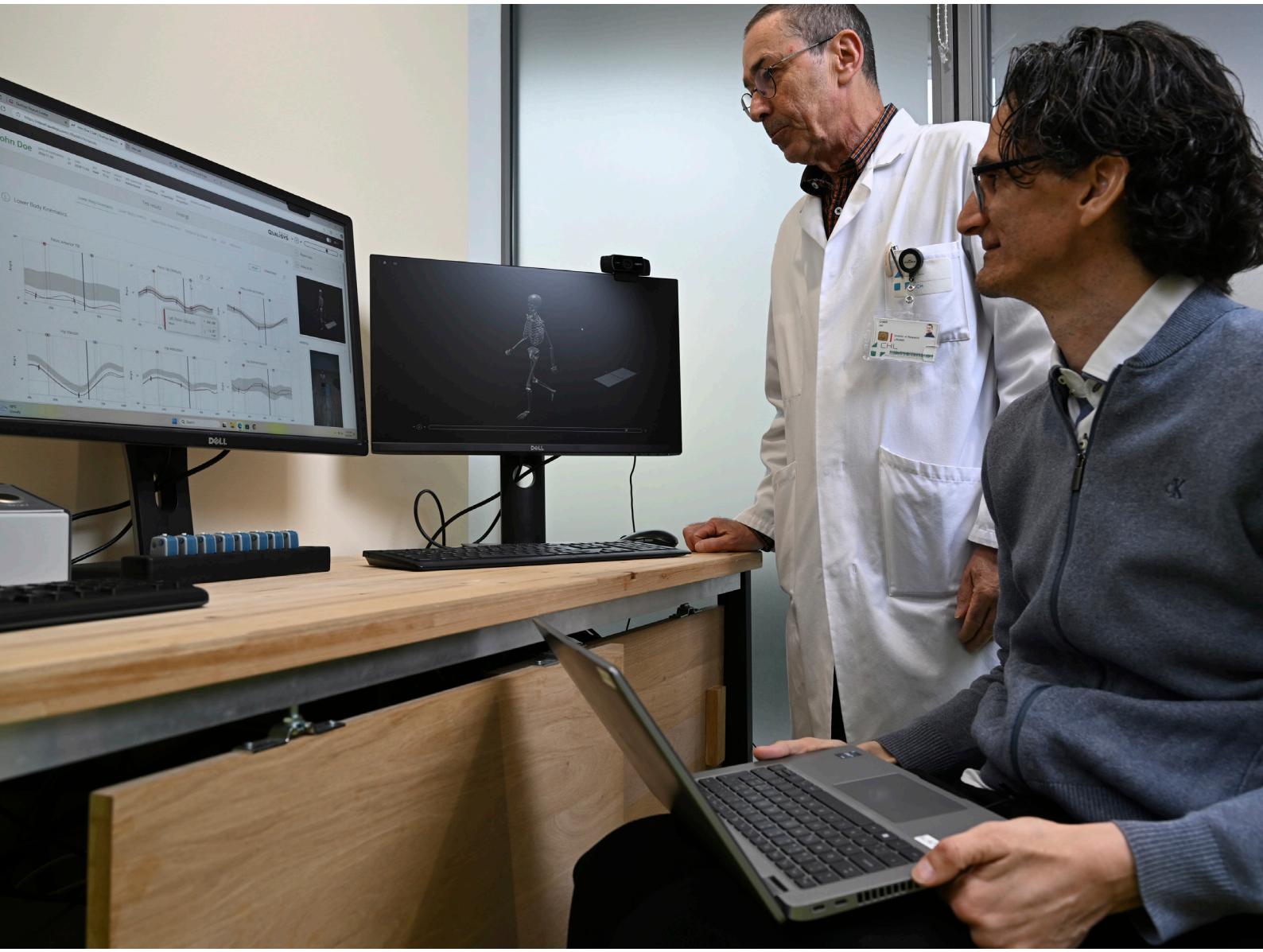
## LIH EXPANDS RESEARCH IN INJURY PREVENTION AND MUSCULOSKELETAL HEALTH INNOVATION

In March 2025, the LIH Physical Activity, Sport & Health led by Dr Laurent Malisoux announced a major new study with French sporting goods retailer Decathlon to evaluate how running shoe cushioning affects injury risk among more than 1,000 runners over six months. Participants tested three shoe cushioning designs, shared training data using sport watches, and reported injuries weekly. The research builds on earlier findings linking greater cushioning to lower injury rates and aims to guide future footwear design for injury prevention.

Shortly after, in April, the LIH Human Motion, Orthopaedics, Sports Medicine and Digital Methods Group led by Dr Bernd Grimm joined the SmILE project, a €20.7 million, five-year Horizon Europe initiative to transform musculoskeletal non-communicable disease (MSK-NCD) management. The consortium of 25 European partners will develop smart implants, wearable sensors, and an AI-driven digital platform to enable earlier diagnosis, personalised rehabilitation, and continuous monitoring. The goal is to improve patient outcomes, support clinical decision-making, and reduce the long-term burden of conditions such as osteoarthritis and fracture recovery.

Together, these initiatives highlight the strategic focus of the LIH on combining large-scale clinical research and digital health innovation to strengthen prevention and long-term musculoskeletal care.

SCAN THE QR CODE
FOR MORE INFORMATION
ABOUT PREVENTIVE MEDICINE



# AWARDS AND PRIZES

NATIONAL

**10.2025**
**DR BASSAM JANJI**
Head of the Tumor Immunotherapy and Microenvironment (TIME Group)

## Dr Bassam Janji awarded grant from the Fondatioun Kriibskrank Kanner

Dr Bassam Janji of the LIH received a grant from the Kriibskrank Kanner Fondatioun to develop and preclinically evaluate innovative therapeutic strategies for high-risk neuroblastoma, as part of a partnership aimed at advancing paediatric oncology research and translating discoveries into clinical progress.

NATIONAL

**10.2025**
**WANXIN HUANG, MARYNA CHEPELEVA AND ELISABETTA BARTOLINI**
PhD students

## LIH doctoral projects supported by the Pelican Grant

Three LIH doctoral researchers received the Pelican Grant from the Fondation du Pélican de Mie et Pierre Hippert-Faber to support their training and mobility in cancer research, enabling international research stays, advanced technical training, and participation in leading scientific conferences.

NATIONAL

**05.2025**
**DR BRICE APPENZELLER**
Head of the Human Biomonitoring Research Unit (HBRU)

## Research on chemical exposure in Luxembourg wins national environmental health prize

Dr Brice Appenzeller was awarded the Health and Environment & Indoor Quality Award by the national associations Aktionsgruppe für Umwelttoxikologie (AKUT), SCENTE, the Luxembourg Patient Association, and Neobuild for his research on organic pollutants in human hair, especially in children.

NATIONAL


**12.2025**
**DR ABIR ELBEJI, DR PILAR MORENO SÁNCHEZ, DR FRIDA LIND-HOLM MOGENSEN**
PhD students

## Three LIH doctoral candidates awarded the Excellent Doctoral Thesis Award

Dr Abir Elbeji, Dr Pilar Moreno Sánchez, and Dr Frida Lind-Holm Mogensen, received the University of Luxembourg's Excellent Thesis Award for research on vocal biomarkers, glioblastoma immuno-oncology models, and neuroinflammation in Parkinson's disease respectively.

NATIONAL

**11.2025**
**DR JULIE PETRY, REBECCA KLAPP**
Department of Infection and Immunity

## LIH researchers awarded poster prizes at the Clinical Research Luxembourg Conference

During the conference, Dr Julie Petry received the first prize for her work on immune reactions to tick bites, while doctoral candidate Rebecca Klapp was awarded the third prize for her research on pediatric asthma diagnosis and treatment.

INTERNATIONAL

**11.2025**
**PROF. MAHESH S. DESAI**
Leader of the Nutrition, Microbiome & Immunity Group

## Prof. Mahesh Desai featured among the most cited researchers

Prof. Mahesh S. Desai of the Department of Infection and Immunity (DII) was included in the Clarivate 2025 "Highly Cited Researchers" report for his numerous highly cited and high-impact papers on the interactions between the gut microbiome, nutrients and immune disorders.

# AWARDS AND PRIZES

INTERNATIONAL


**03.2025**
**MARYNA CHEPELEVA**
PhD researcher

## Maryna Chepeleva receives AI Young Professional Award

Maryna Chepeleva, a PhD researcher in the MODAS group, received the AI Young Professional Award and was featured in the Equals Role Model Campaign for her work on AI-driven methods for personalised cancer treatment.

INTERNATIONAL


**DR YVAN DEVAUX**
Group Leader of the Cardiovascular Research Unit (CVRU)

## Double Honour for Dr Yvan Devaux

Dr Yvan Devaux, leader of the CVRU, was named Fellow of the Grand Ducal Institute of Luxembourg and International Fellow of the American Heart Association, recognising his major contributions to cardiovascular research and leadership in the field.

INTERNATIONAL

**11.2025**
**DR AURÉLIE FISCHER**
Scientific Coordinator, Deep Digital Phenotyping Research Unit

## Dr Aurélie Fischer awarded by the Académie Nationale de Metz

Dr Aurélie Fischer from the Deep Digital Phenotyping Unit received the Sciences Prize of the Académie Nationale de Metz for her work on a voice-based digital solution for monitoring Long COVID, leading to the co-creation of the Long COVID Companion app.

INTERNATIONAL


**06.2025**
**PROF. DR MARKUS OLLERT**
Former Director of the Department of Infection and Immunity

## Prof. Markus Ollert honoured at EAACI Annual Congress 2025

Prof. Dr Markus Ollert received the EAACI Research Fellow Award in recognition of his contributions to allergy and immunology research, and participated in the EAACI Congress with an invited lecture and as chair of scientific sessions.

INTERNATIONAL


**02.2025**
**DRS LAURA MARTINEZ RUIZ AND ADRIANA JOU**

## Two LIH postdoctoral researchers receive the Marie Skłodowska-Curie Fellowship

Laura Martinez Ruiz and Adriana Jou, postdoctoral researchers at the Department of Cancer Research, were awarded Marie Skłodowska-Curie Fellowships for projects on cancer metabolism and immunotherapy.

INTERNATIONAL

**10.2025**
**DR AURÉLIE POLI**
Senior Scientist in the Neuro-Immunology Group

## EANO Research Grant awarded to Dr Aurélie Poli

Dr Aurélie Poli, Senior Scientist in the Neuro-Immunology Group, received the European Association of Neuro-Oncology Research Grant for her project on the protective role of allergies in glioma and its potential for new immunotherapy strategies.

FOR MORE HIGHLIGHTS,
CHECK THE DEDICATED SECTION
ON THE DIGITAL REPORT

# INSTITUTIONAL ORGANISATION AND FIGURES

## BOARD OF DIRECTORS

Ulf Nehrbass
CEO

Stefan Debast
CFAO

ADMINISTRATIVE DEPARTMENT & CORE SERVICES

LUXEMBOURG RESEARCH CLINIC

Christof Von Kalle
Director

RESEARCH DEPARTMENTS

DEPARTMENT OF CANCER RESEARCH

Johannes Meiser
Director

DEPARTMENT OF PRECISION HEALTH

Guy Fagherazzi
Director

DEPARTMENT OF INFECTION & IMMUNITY

Jonathan Turner
Interim Director*

TRANSLATIONAL MEDICINE OPERATIONS HUB

Hermann Thien
Director

DEPARTMENT OF MEDICAL INFORMATICS

Maximilian Fünfgeld
Director

Frank Glod
Deputy CEO

RESEARCH SUPPORT SERVICES

SCAN THE QR CODE FOR MORE INFORMATION ABOUT THE BOARD OF DIRECTORS AND THE EXECUTIVE COMMITTEE

*since 1 January 2026 following the retirement of Markus Ollert on 31 December 2025.

# KEY FACTS 2025*

**1,180*****
Participant inclusions and follow-ups in collaborative research projects

**121**
Publications in top 10% journals

**5**
Public Health reports

**311****
Scientific publications

**9**
Doctoral theses

**42**
Joint publications with other Luxembourg research institutes

**727**
Press mentions (national and international)

**456,861**
Total samples distributed (IBBL)

**3,789,135**
Total samples collected and aliquots created (IBBL)

**3**
Priority patent applications filed

**24,3 Mio€**
Third party income

**58**
Nationalities

**295**
Researchers

**546**
Employees

**86**
New projects, total funding 26.5 M EUR

**265**
Ongoing projects

*Figures as at December 31st 2025.
**Including peer-reviewed journal articles, books and book chapters, public health reports and doctoral theses, but excluding abstracts and corrections.
***All types of visits and interactions with participants in research projects, clinical trials and clinical studies.
****The list includes scientific publications (peer-reviewed journal articles, books and book chapters, public health reports and doctoral theses), plus published patents, meeting abstracts and preprints.

SCAN THE QR CODE TO DISCOVER THE FULL LIST OF 2025 LIH SCIENTIFIC PUBLICATIONS****

# HUMAN RESOURCES

## STAFF BY **GENDER**

**197** MALE
36%

**349** FEMALE
64%

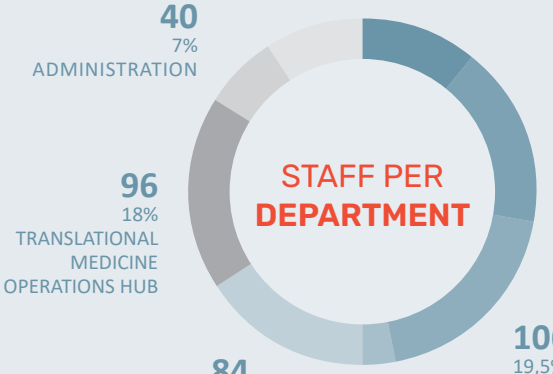
## STAFF BY **NATIONALITY**

- **156** FRENCH - **29%**
- **76** LUXEMBOURGISH - **14%**
- **67** BELGIAN - **12%**
- **48** GERMAN - **9%**
- **100** OTHER EUROPEAN NATIONALITIES - **18%**
- **99** NON-EUROPEAN NATIONALITIES - **18%**

## STAFF BY **FUNCTION**

- **295** RESEARCHERS **54%**
- **120** TECHNICIANS **22%**
- **131** SUPPORT STAFF **24%**

## STAFF PER **DEPARTMENT**



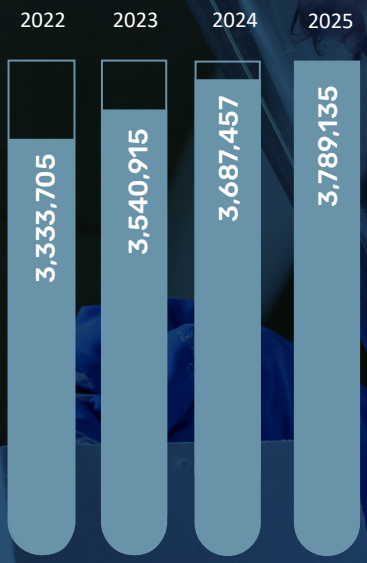
- **44** 8% GENERAL MANAGEMENT
- **62** 11% DEPARTMENT OF MEDICAL INFORMATICS
- **40** 7% ADMINISTRATION
- **88** 16% DEPARTMENT OF INFECTION AND IMMUNITY
- **96** 18% TRANSLATIONAL MEDICINE OPERATIONS HUB
- **106** 19,5% DEPARTMENT OF CANCER RESEARCH
- **84** 15,5% DEPARTMENT OF PRECISION HEALTH
- **26** 5% LUXEMBOURG RESEARCH CLINIC

## STAFF BY **WORK CONTRACT TYPES**

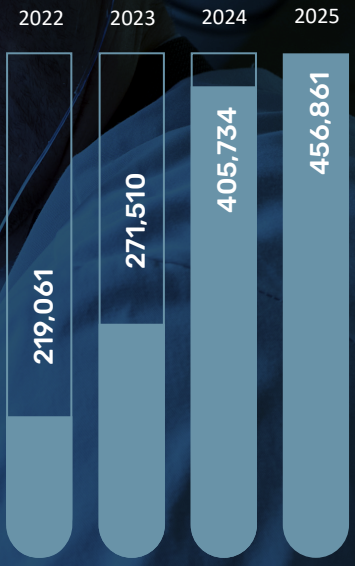
- **3** 1% EXTERNAL
- **242** 44% FIXED TERM
- **304** 55% PERMANENT

# IBBL COLLECTION STATISTICS*

## TOTAL SAMPLES COLLECTED AND ALIQUOTS CREATED




## DISTRIBUTED




## SAMPLES BY TYPE


Blood derivative: 2,430,504

Cells: 264,900

Urine derivatives: 512,049

Tissue derivatives: 221,042

Nucleic acids: 148,740

Others: 211,900

## SAMPLES BY PROGRAMME


Service contracts: 2,483,378

Neurodegenerative diseases: 400,695

Cohort: 372,177

Cancer: 106,088

Diabetes: 144,328

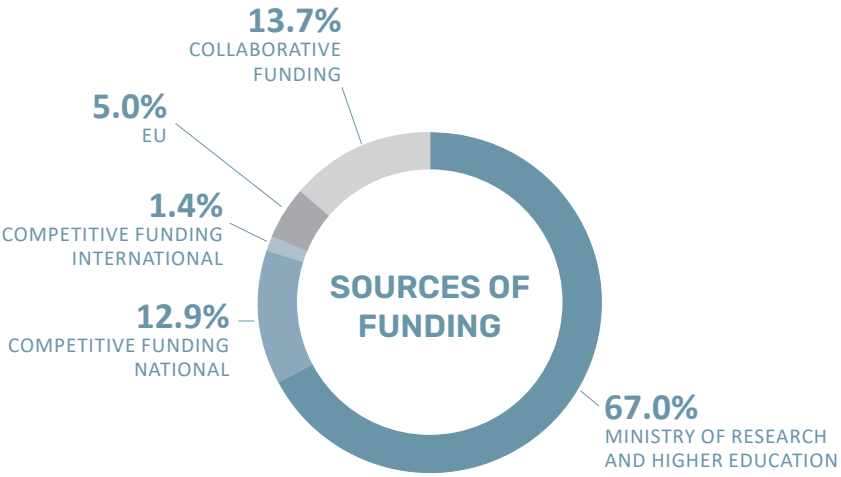
Controls: 282,469

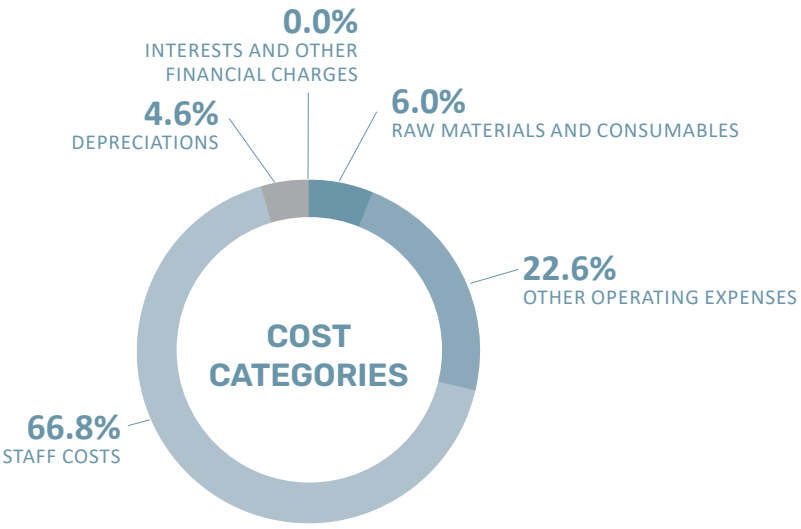
*Cumulative figures as at December 31st

## FINANCES

The accounts were audited by the statutory auditors Grant Thornton and approved by the Board of Directors during their meeting of 27.03.2026.

# Statutory Expenses




# Profit and loss account (31st December 2025)

| PROFIT AND LOSS ACCOUNT (EUR) | 2025<br>01.01 - 31.12.2025 | 2024<br>01.01 - 31.12.2024 |
|---|---|---|
| Net turnover | 6,450,434 | 5,033,214 |
| Subsidies | 67,872,605 | 63,451,381 |
| Other income | 425,292 | 362,741 |
| Use of merchandise, raw materials and consumable materials | -4,572,194 | -4,273,588 |
| Other expenses | -17,103,495 | -17,706,668 |
| Staff costs | | |
| a) Salaries and wages | -44,828,611 | -40,437,252 |
| b) Social security on salaries and wages | -5,795,123 | -4,869,155 |
| Value adjustment on intangible, tangible assets and financial assets | -3,289,981 | -3,096,807 |
| Value adjustment on current assets | -181,643 | 0 |
| Other interest receivable and similar income | 1,024,450 | 1,645,473 |
| Interest payable and similar expenses | -3,861 | -11,177 |
| **RESULT OF THE YEAR** | **-2,127** | **98,162** |

# Balance sheet (31st December 2025)

| ASSETS | 2025 01.01 - 31.12.2025 | 2024 01.01 - 31.12.2024 |
|---|---|---|
| **FIXED ASSETS** | | |
| Intangible assets | 909,830 | 675,890 |
| Tangible assets | 10,165,129 | 10,115,129 |
| Financial assets | 6,330 | 8,080 |
| **TOTAL FIXED ASSETS** | **11,081,289** | **10,799,099** |
| **CURRENT ASSETS** | | |
| **DEBTORS** | | |
| ***Trade debtors*** | **3,181,468** | **2,970,752** |
| Becoming due and payable within one year | 3,181,468 | 2,970,752 |
| Becoming due and payable after more than one year | 0 | 0 |
| | | |
| ***Other debtors*** | **7,508,050** | **5,917,483** |
| Becoming due and payable within one year | 7,502,425 | 5,917,483 |
| Becoming due and payable after more than one year | 5,625 | 0 |
| Cash at bank and in hand | **57,518,515** | **63,029,625** |
| **TOTAL CURRENT ASSETS** | **68,208,033** | **71,917,860** |
| **Prepayments** | **2,226,303** | **2,035,486** |
| **TOTAL ASSETS** | **81,515,625** | **84,752,445** |

| CAPITAL, RESERVES AND LIABILITIES | 2025<br>01.01 - 31.12.2025 | 2024<br>01.01 - 31.12.2024 |
|---|---|---|
| **CAPITAL AND RESERVES** | | |
| Financial wealth | 4,099,157 | 4,099,157 |
| Reserves | 18,851,152 | 18,752,990 |
| Profit or loss brought forward | | |
| Profit or loss for the financial year | -2,127 | 98,162 |
| Capital investment subsidies | 10,380,889 | 10,000,865 |
| **TOTAL CAPITAL AND RESERVES** | **33,329,071** | **32,951,174** |
| **Available reserve for projects** | **37,809,348** | **40,313,743** |
| **Provisions for risks and charges** | **3,255,149** | **3,218,902** |
| **CREDITORS** | | |
| ***Trade creditors*** | **3,478,899** | **3,672,781** |
| Becoming due and payable within one year | 3,478,899 | 3,672,781 |
| Becoming due and payable after more than one year | 0 | 0 |
| ***Tax and social security debts*** | **2,504,878** | **2,193,316** |
| Tax authorities | 13,688 | 13,464 |
| Social security authorities | 2,491,190 | 2,179,852 |
| ***Other creditors*** | **1,138,249** | **2,402,528** |
| Becoming due and payable within one year | 1,138,249 | 2,402,528 |
| **TOTAL AVAILABLE RESERVE FOR PROJECTS, PROVISIONS AND CREDITORS** | **48,186,523** | **51,801,270** |
| **Deferred income** | 32 | 1 |
| **TOTAL CAPITAL, RESERVES AND LIABILITIES** | **81,515,625** | **84,752,445** |


*The Luxembourg Institute of Health gratefully acknowledges the invaluable contribution of its funding agencies, institutional collaborators, philanthropic supporters, and all partners. Their confidence in our vision provides the foundation for sustained scientific progress, enabling investment in innovative research, infrastructure, and the development of future scientific talent. Your collective support plays a vital role in strengthening our capacity to advance biomedical knowledge and translate research into meaningful benefits for patients and society.*

AC BioScience

Action LIONS Vaincre le Cancer

Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail

Angany Inc.

Biocodex

Breakthrough T1D

Breast International Group (BIG-aisbl)

Bristol Myers-Squib

Caisse Nationale de Santé (CNS)

Center Hospitalier de Luxembourg

Centre François Baclesse

China Scholarship Council

Cytovation AS

Decathlon S.A.

ECRIN

EMBO

European and Developing Countries Clinical Trials Partnership (EDCTP)

European Association for Cancer Research

European Association of Neuro-Oncology

European Commission

European Cooperation in Science and Technology

European Organisation for Research and Treatment of Cancer (EORTC)

FNR - Fonds National de la Recherche

FNRS - Fonds National de la Recherche Scientifique

Fondation Cancer

Fondation de Luxembourg

Fonds Clinatec

Heart Foundation-Daniel Wagner of Luxembourg

Helmsley Trust

Helse Nord RHF

Herantis Pharma Plc.

Independent Research Fund Denmark

INRS

MEDICE Arzneimittel Pütter GmbH & Co. KG

Ministry of Agriculture, Food and Viticulture

Ministry of Foreign and European Affairs, Luxembourg

Ministry of Health

Ministry of Science and ICT, South Korea

Molecular Plasma Group SA

MR Solutions Ltd.

NTT Luxembourg PSF S.A.

Oeuvre nationale de secours Grande Duchesse Charlotte

Pfizer

Plooschter Projet a.s.b.l.

Region Skåne Helsingborg Hospital

Roche

Service de Santé Au Travail Multisectoriel (STM)

Société Francophone du Diabète (SFD)

Stiftelsen Cancera

The Brain Tumour Charity

The Michael J Fox Foundation for Parkinson's Research

Thiemann Stiftung

Think Pink Luxembourg

Unicancer

University CEU San Pablo

University of Liverpool

University of Luxembourg

University of Newcastle upon Tyne

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*We would like to thank everyone involved in the development of this Annual Report.*

DISCOVER THE FULL CONTENT
**IN THE DIGITAL VERSION**

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