

PRESS RELEASE

For immediate release

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2021: Making translational research come to life

“This year renewed our commitment to a precision health research strategy with meaningful benefits for patients. It aims at putting the patient at the centre of our application-targeted research and establishing integrated bed-to-bench-to-bed processes for our projects. Its dedicated teams of multidisciplinary researchers strive for excellence, generating relevant knowledge linked to immune related diseases and cancer. Our activities are constantly evolving and facing up to the future challenges of biomedical research, taking advantage of unique opportunities to improve the application of diagnostics and therapeutics with the long-term goal of preventing disease,” Ulf Nehrbass, CEO.

LIH renews commitment to COVID-19 research

After nearly two years, the COVID-19 pandemic remains a public health concern. Despite the employment of public health measures, such as restriction of movements and gatherings, personal protection, as well as massive vaccination campaigns, the coronavirus is still largely affecting the mortality and morbidity worldwide, including persisting symptoms after the infection.

Since the beginning of the pandemic, the Luxembourg Institute of Health exploited its resources to fight at the forefront of the emergency. Thanks to its dedication, Luxembourg was one of the first countries in the world to implement a large-scale testing programme, offering all of its residents and cross-border workers the opportunity to receive regular free testing on a voluntary basis. The contact tracing data helped LIH researchers reveal that asymptomatic SARS-CoV-2 carriers are likely to be just as infectious as their symptomatic counterparts.

But 2021 did not only see the LIH participate in large-scale testing. Originally launched in April 2020 with the aim of identifying risk factors and biomarkers associated with COVID-19 severity in the adult population, leading national studies like Predi-COVID (“Luxembourg cohort of positive patients for COVID-19: a stratification study to predict severe prognosis”) were extended to children, aiming to elucidate risk factors for COVID-19 severity in the younger population. Its results were shared in the international network unCoVer (Unravelling data for rapid evidence based response to COVID-19) to create an international, harmonised, real-world data bank to better understand the pathophysiology, progression and treatment, as well as the epidemiological pattern of the disease. The CON-VINCE project, a national study to evaluate the prevalence and dynamics of the spread of COVID-19 within the Luxembourgish population, with a specific focus on asymptomatic and mildly symptomatic individuals, underwent its last round of tests during spring 2021. ORCHESTRA Luxembourg then stepped into the shoes of its predecessor, inviting former CON-VINCE participants to contribute and therefore provide essential information on long-term vaccine effectiveness and the impact of COVID-19 in the general population.

Translational research that benefits patients at the core of LIH strategy

To leverage knowledge and technology arising from research on patient-derived data, with the aim of having a direct and meaningful impact on people's health, is at the core of LIH's values. It is with this in mind that the LIH continued to restructure towards a more transversal, translational organisation.

"The creation of the Translational Medicine Operations Hub (TMOH) and the rebranding of two of our three research departments emphasizes this shift towards patient-oriented research. The Department of Oncology became the Department of Cancer Research and the Department of Public Health became the Department of Precision Health. In this setting, we welcomed Dr Guy Fagherazzi and Dr Hermann Thien, who joined in 2021 as leaders of the Department of Precision Health and of the Translational Medicine Operations Hub, respectively. This new structure should bring research closer to the patient, at the right time," comments Dr Gregor Baertz, President of the Board of Directors.

In addition, implementation of the new strategy was reflected in all aspects of LIH research. Efforts in precision health led to the launch of the CoLive Voice project, a first-of-its kind digital health study led by Dr Guy Fagherazzi that aims to advance the diagnosis, risk prediction and remote monitoring of various chronic conditions and symptoms by evaluating voice features. Prof Mahesh Desai, Leader of the Eco-Immunology and Microbiome research group at the Department of Infection and Immunity, found novel ways in which intake of dietary fiber, as well as the microbiome, could influence notable aspects of health and disease, such as our response to enteric pathogens and even our predisposition to develop autoimmune diseases.

Cancer research continued to be at the core of LIH activities and 2021 homed the launch of the National Centre for Translational Cancer Research project, a pioneering exploit coordinated by the LIH set to foster patient-oriented cancer research in Luxembourg and provide access to clinical studies and innovative treatments to patients. The NCTCR will aim to stimulate translational cancer research and build bridges between scientific developments and treatment in the hospital. Overall, the benefits should be felt by patients, with an acceleration of precision oncology efforts at the national scale, and the expansion of access to cutting-edge clinical trials. By its design, the NCTCR will ultimately seek to become a cornerstone for future precision cancer therapeutics in Luxembourg and drive patient-oriented research towards precision oncology. The remarkable research achievements of the Department of Cancer Research attracted the national spotlight, and led to several excellence awards.

"Overall, I think it was a very successful year. The driving force behind it were all of LIH's staffs and collaborators, whether scientists, clinicians, technicians or administrative support teams. The unwavering support of our funders, stakeholders, collaborators, investors, and, crucially, our patients, made all of our achievement possible," concludes Ulf Nehrbass, CEO.

The year 2021 in figures

408 scientific publications

2 patent applications

8 new partnerships with a private partner

152 new signed agreements

322 ongoing projects

660 mentions of LIH/IBBL in the press

3.1 million biological samples collected and aliquots created (IBBL)

180,303 biological samples distributed (IBBL)

16.2 Mio€ third-party income

About the Luxembourg Institute of Health (LIH)

The Luxembourg Institute of Health (LIH) is a public biomedical research organization focused on precision health and invested in becoming a leading reference in Europe for the translation of scientific excellence into meaningful benefits for patients.

LIH places the patient at the heart of all its activities, driven by a collective obligation towards society to use knowledge and technology arising from research on patient derived data to have a direct impact on people's health. Its dedicated teams of multidisciplinary researchers strive for excellence, generating relevant knowledge linked to immune related diseases and cancer.

The institute embraces collaborations, disruptive technology and process innovation as unique opportunities to improve the application of diagnostics and therapeutics with the long-term goal of preventing disease.

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