2019 Annual Report
of the Swiss Lung Association Research Fund
The COVID-19 virus has opened our eyes to how utterly dependent we are on applied research. Teams all around the world are working flat out to gain a better understanding of the epidemiology of the pathogen and develop therapies and vaccines. The coronavirus crisis concerns us all. It brings home to us the fact that a well-functioning healthcare system can be stretched to its limits, but also that the economy and ultimately the whole of society are facing challenges that have never been seen before.

It is not only in crisis situations like the present that applied research is indispensable to understanding the needs of patients, in order to develop suitable therapies, for example, or to improve the quality of life.

That is why we sponsor multiple innovative research projects every year, some involving applied research. In this endeavour, we enjoy the generous support of institutions and private individuals. I would like to take this opportunity to say a heartfelt “thank you” to our current – and future – supporters!

Find out more about the projects and activities sponsored by the Swiss Lung Association Research Fund on the following pages. I hope you find our Annual Report inspiring and I wish you a virus-free time.

Dr med. Jörg Spieldenner
President of the Swiss Lung Association

When even the strongest coffee no longer helps: it could be sleep apnoea.

More than 150,000 people in Switzerland suffer from sleep apnoea. The brief pauses in breathing while asleep often go unnoticed by those affected. They are also unaware that it makes deep, refreshing sleep impossible.

As a result, those affected suffer from daytime sleepiness, exhaustion, concentration difficulties and often also impaired productivity. There is also an increased risk of developing high blood pressure or diabetes, or suffering a heart attack. And it is not uncommon for accidents to happen at work, or in road traffic when the person falls asleep at the wheel.

Researching how the quality of life can be enhanced – thanks to the Research Fund

The most effective treatment for sleep apnoea is CPAP (Continuous Positive Airway Pressure) therapy. The CPAP device blows a gentle stream of air into a facial or nasal mask throughout the night. The resulting positive pressure in the nasopharynx keeps the airways open. The patient is able to breathe normally again when asleep, without interrupted breathing or snoring. CPAP devices can reduce irregular breathing patterns during the night, but are often not sufficient to improve the quality of life all round.

This is why, in addition to CPAP therapy, research is currently looking into other complementary measures.

The Research Fund is supporting the team behind the project “Improving quality of life with sleep apnoea through diet and exercise”, which is investigating the effect of physical activity in combination with dietary measures and respiratory therapy on the quality of life of overweight sleep apnoea patients. The aim of this project is to explore effective measures that might improve health long-term, with a view to deriving a comprehensive treatment programme for sleep apnoea sufferers.

The three-month training programme consists of supervised Nordic walking and unsupervised, moderate physical activity from the second month on. Personal nutritional advice is provided through phone contact with a nutritionist, the goal being for the person to lose four per cent or more of their current body weight. Both the nutritional counselling and training programme also provide guidance in making behavioural changes.

The COVID-19 virus has opened our eyes to how utterly dependent we are on applied research. Teams all around the world are working flat out to gain a better understanding of the epidemiology of the pathogen and develop therapies and vaccines. The coronavirus crisis concerns us all. It brings home to us the fact that a well-functioning healthcare system can be stretched to its limits, but also that the economy and ultimately the whole of society are facing challenges that have never been seen before.

If we want to gain a better understanding of diseases, or to develop or improve targeted therapies, there is no alternative to investing in promising research. Research that is close to the heart of the Lung Association and its funding partners. Never more so than in times like these.

Ladies and Gentlemen,

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The Research Fund in numbers 2019

In 2019, a total of 24 research teams submitted applications for grants totalling CHF 2.9 million.

The lack of project submissions in 2018 had prevented the funding of a project in the topic-specific Type 2 category of the Research Fund in 2018. This meant that twice the usual amount of grants – i.e. CHF 250,000 – was available in 2019. A total of eight researchers submitted projects under the new Type 2 category “Projects for Lung Health”. Two of these projects were awarded grants.

At some 3,200 deaths per year, lung cancer is the most frequent cause of cancer-related deaths in Switzerland. If it is diagnosed early, surgery is an effective treatment option. In other words, early detection of this cancer would help to reduce cancer-related deaths and alleviate the suffering of patients and their families.

In their project, a research group led by Prof. Christophe von Garnier wants to assess the feasibility and funding of a national low-dose computed tomography (LDCT) early-detection programme for lung cancer from the perspective of various stakeholders. This multi-stakeholder approach, which involves all stakeholders throughout the entire process, is a global first. The Swiss Lung Association is eagerly awaiting the results, as Switzerland could play a pioneering role in the introduction of a screening programme with this project. The results of the study are expected to be published in the first half of 2021.

Projects supported in 2019

How do viruses damage the lungs?
2019-02, Dr Marco Alves, University of Bern, CHF 140,448

Predicting asthma attacks in children
2019-03, Dr med. Cristina Ardura-Garcia, University of Bern, CHF 67,300

Radiomics – a predictive tool for the effect of drugs
2019-06, PD Dr med. Britta Maurer, University Hospital Zurich, CHF 84,500

Targeted therapy thanks to organoids from pluripotent stem cells
2019-14, Prof. Dr Thomas Geiser, Inselspital Bern, CHF 144,112

Improving quality of life with sleep apnoea through nutrition and sport
2019-17, Dr Mathieu Berger, Lausanne University Hospital, CHF 100,000 (Type 2)

Swiss lung cancer screening programme
2019-20, Prof. Dr med. Christophe von Garnier, Lausanne University Hospital, CHF 150,000 (Type 2)

Spotlight on a new project
Prof. Dr med. Christophe von Garnier, Lausanne University Hospital

Swiss lung cancer screening programme

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Projects completed in 2019

New blood test for the diagnosis of tuberculosis in children
2014-21, PD Dr med. Nicole Ritz, University Children’s Hospital Basel
CHF 63,650
(This project was financially supported by the Uniscientia Foundation.)

Congenital cystic-adenomatoid lung malformation
2015-10, Dr Isabelle Ruchonnet-Métrailer, Geneva University Hospitals (HUG)
CHF 105,053
(This project was financially supported by the Fiona Foundation and the Werner Geissberger Foundation.)

Highly pathogenic viruses in the air: a serious threat
2016-06, Prof. Dr Stefan Kunz, Lausanne University Hospital (CHUV)
CHF 75,000

Stem cells in the fibrotic lung
2016-07, PD Dr med. Dr phil. Katrin Hostettler Haack, University Hospital Basel
CHF 125,000

Terminated prematurely: smartphone app to help HIV-infected persons stop smoking
2016-15, Prof. Dr med. Heiner Bucher, University Hospital Basel
CHF 75,000

Airway remodelling as a key to the treatment of asthma
2017-02, Prof. Dr Michael Roth, University Hospital Basel
CHF 105,000

The Research Fund has a lasting impact!

The impact factor (IF) is a measure of the quality of a scientific journal. It indicates how often on average an article from that journal is cited in other scientific publications. The higher the IF of a journal, the more attractive it is to publish an article in that journal.

The IF is also used to evaluate the merit of individual scientists and research institutions. The higher the number of articles published by researchers or institutions in journals with a high impact factor, the greater the prestige enjoyed by their research work.

An IF of three or more is regarded as satisfactory in pneumology research, above nine is very good. Of the publications resulting from the funded research projects to date (19 in total), all but one have been published in journals with an IF of more than three, and four with a high IF of more than nine. One even made it into “The Lancet Respiratory Medicine” with an outstanding IF of 19.3.
This is the third time that the Lung Association has presented the award for the best publication by a young researcher in the field of respiratory research and lung health at the SGP Congress. This award is worth CHF 10,000 and recognises outstanding, completed research projects by researchers who are at the beginning of their careers.

In 2019, the award went to Aurélien Trompette from Lausanne University Hospital (CHUV) for his publication in “Immunity” entitled “Dietary fiber confers protection against influenza by shaping Ly6cneg patrolling monocyte hematopoiesis and CD8+ T cell metabolism”.

The jury, consisting of the members of the Research Committee, judged the article solely on the basis of its scientific content. This assessment is also reflected in the impact factor of the journal “Immunity”, where the article was published: an impressive 21.5.

“I was very pleased to win the Swiss Lung Association’s 2019 Award. The award is a recognition of the many years of work and commitment to lung research at Lausanne University Hospital (CHUV).

I knew that our research results were of particular importance to many people. So I am very proud that our colleagues have chosen our publication as the winner of this prestigious award. It is an honour, and I would like to thank the entire research team of the Pneumology Lab at CHUV, as well as the president and members of the Research Committee.”

Aurélien Trompette

“After my maternity leave in the first half of 2019, I am now once again actively involved in the Research Fund of the Swiss Lung Association and look forward to accompanying the researchers in their projects and participating in the development of the Research Fund. It makes me very proud that our grants are going to support extremely high-level research. To simplify the administration of applications and projects, I adapted an existing online platform to our needs.

In 2019, the Research Award and project applications were submitted via this platform for the first time and were also judged there by our committee members. Once implementation is complete, we will also manage the funded projects via this platform. I am very pleased that this new tool is enabling us to make the Research Fund admin leaner and more efficient and giving us more time to support the researchers.”

Jenny Herzog
Head of Research Secretariat

Thank you

The Swiss Lung Association would like to thank all the individuals, institutions and cantonal Lung Associations who have so generously supported the Swiss Lung Association Research Fund with their donations. The Swiss Lung Association is particularly grateful to the following institutions that provide funding for specific projects:

– Georg and Bertha Schwyzer-Winiker Foundation
– Irène and Max Gsell Foundation
– MBV AG Microbiology and Bioanalytics
– Lindenhof Foundation Bern, Teaching and Research Fund
– Uniscientia Foundation
– Uranus Foundation
Members of the Research Committee

A high-calibre Research Committee comprising renowned lung specialists and professionals from Switzerland decides on the allocation of grants from the Research Fund.

President
Prof. Dr med. Constance Barazzone-Argiroffo
Head of Paediatric Department, HUG (Geneva University Hospitals)

Vice-President
Prof. Dr med. John-David Aubert
Senior Physician, Pneumonology Department and Transplant Centre, CHUV (Lausanne University Hospital)

Members
Prof. Dr med. Konrad E. Bloch
Deputy Director, Clinic of Pneumology, University Hospital Zurich

Prof. Dr rer. pol. Stefan Felder
Faculty of Economics, University of Basel

Prof. Dr med. Paola Gasche-Soccal
Head of Pneumology Department, HUG (Geneva University Hospitals)

PD Dr med. Christophe von Garnier
Physician-in-Chief, Inselspital, and Head of Tiefenauspital, University Clinic of Pneumology, Inselspital Bern

Prof. Dr med. Claudia Kuehni
Head of Research Group, ISPM (Institute for Social and Preventive Medicine), University of Bern

Dr med. Jean-Marie Schnyder
Director of the Lucerne Höhenklinik Montana

Prof. Dr med. Otto Schoch
Senior Physician, Clinic of Pneumology and Sleep Medicine, Kantonsspital St. Gallen

Prof. Dr med. Michael Tamm
Physician-in-Chief, Clinic of Pneumology, University Hospital Basel

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Annual financial statement

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<tr>
<td>Research platform</td>
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All amounts in CHF
Would you like to know more about the projects we have funded or would you like to get involved in research funding yourself?

Fabian Putzing will be pleased to assist you: 031 378 20 49 or f.putzing@lung.ch

General information: www.lungenliga.ch/forschung
Information for applicants: www.lungenliga.ch/research