



IVARS KALVIŅŠ

PRESIDENT, LATVIAN ACADEMY OF SCIENCES

2020–2021: A TIME OF CHALLENGE AND OPPORTUNITY

The year 2020 will undoubtedly be remembered in world history as the year of the COVID-19 pandemic, which will leave its mark on all spheres of daily life. Many governments have been forced to introduce drastic restrictions in order to limit the spread of the virus, and these have been ambiguously taken up by the public. Global economic growth has slowed, and, in many places, recession has set in, leading to a fall in living standards.

At the same time, we have seen global consensus emerge in efforts to pool intellectual and financial resources to fight this virus, and to mitigate the consequences. It was particularly fascinating in regard to the way scientists from many countries, and even private-sector actors, worked together to create effective vaccines, as well as to carry out basic research. The public sector invested huge sums in projects carried out by private companies such that vaccines be developed within one year and be made available to the public. And the results have been really fantastic! Not just a one vaccine was created and mass vaccinations begun in many countries around the world. Scientists focussed on investigating many fundamental issues, both in terms of the virus itself, and in explaining the effectiveness and impact of the new vaccines on the human body. New technologies and principles have been devel-

oped that allow rapid adaptation of vaccines as needed to SARS-Cov2 mutants, as well as to achieve a high degree of immune response in people against new strains of the virus.

We are proud that members of the Latvian Academy of Sciences are at the forefront of scientists working on the development of new types of vaccines based on the use of virus-like particles to enhance immune response. Our members are developing new approaches to the design of antiviral agents, have developed new disinfectants, and explored the possibility of repurposing the existing drugs by studying their effects on COVID-19-induced changes in the human body. We have worked on creating personal protective equipment effective against SARS-Cov2. Thanks to the excellent performance of our scientists, a specialised national high-security biosafety laboratory is being set up appropriate for work with live infectious viruses. LAS members are studying changes in COVID-19 genes and their effect on viral properties, to explain the spread and development of COVID-19 in different age groups, including among children. These and many other studies, including engineering solutions to combat COVID-19, have been done in the framework of a special state-sponsored research programme dedicated to timely forecasting of the spread of infection.



Photo: Jānis Brencis

In 2020, we began extending the range of activities of the Latvian Academy of Sciences from the creation of knowledge, the evaluation and promotion of scientific achievements, to more active engagement in innovation processes. In like manner as many other national academies, we are actively assisting Latvian decision-makers to improve the education, research, development and innovation ecosystem, and science policy, so that Latvian industry can increase its global competitiveness. In small economies such as that in Latvia, it is important to increase public sector investment in the development of knowledge-based products and technologies, while keeping in mind the priorities of a green economy, with digitalisation and robotisation as preconditions for sustainability.

In 2020, Latvian scientists took a significant step to move closer to leading EU countries in the fields of education, science, research, and, also, innovation. In order to achieve this goal, the National Academies of Sciences of the Baltic Sea region have been addressed by the LAS seeking enhanced cooperation in developing an innovation platform. And we are determined to continue along this path.

The Latvian Academy of Sciences continues to strengthen its activities in regard to the humanities and social sciences, solicitous of advances in culture

and art in Latvia. This is one of the nationally recognised missions of the LAS – to cultivate our mother tongue, to study the history of our country, to promote cultural advances of the titular nationality and, also, minority culture in our country, for the sake of social cohesion and spiritual growth. We are convinced that active participation not only of the Full Members, but also of the Honorary Members and Honorary Doctors of our Academy in promoting science contributes to spiritual growth of society and cohesion of its various groups, strengthening thereby the sustainability of our country and nation. Latvia is and will continue to be a country where rights are respected of every individual to live and work in conditions of democracy and harmony. Therefore, the Latvian Academy of Sciences will continue to do its best such that nothing might interfere with the spiritual development of all. In this regard, we are appreciative for the opportunity of strengthening international cooperation with other National Academies of Science, as well as for the unity of contemporary Europe and the way forward for ever closer cooperation. And we are convinced that together we shall succeed!

Translated by **Eduards Bruno Deksnis**