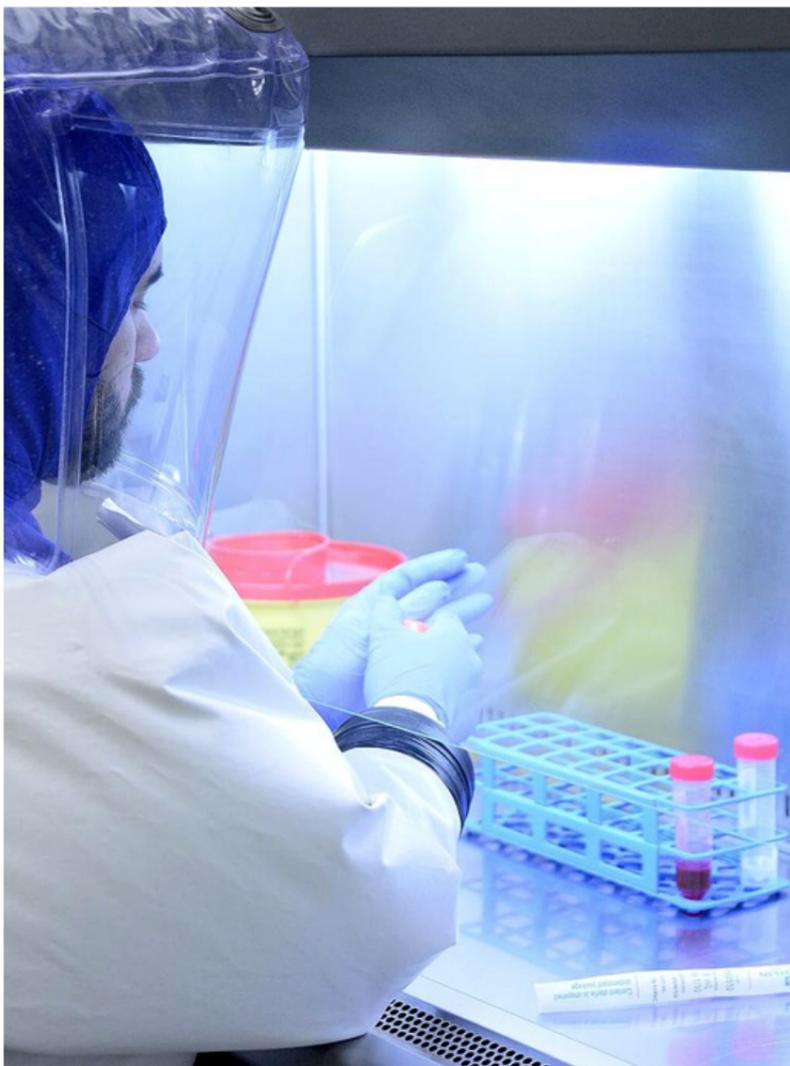


NATIONAL LABORATORY OF VIROLOGY

PREPARING FOR THE AGE OF EPIDEMICS

The primary research area of the National Laboratory of Virology is the study of viruses transmitted from animals to humans. In addition to basic research, the research group is also involved in a number of applied research projects aimed at developing and testing tests and potentially antiviral agents that can be applied in medical and patient care practice. The Laboratory's main goal is also to unite virological research in Hungary, to organise the Hungarian research network, which will allow a better understanding of the mechanisms of new and already known viral infections and, as a result, to develop more effective ways of protecting against them.



MAIN RESEARCH AREAS

- Viral pathogenesis, new antiviral drugs, whole viral genome bioinformatics
- Inhibition of viral replication by RNA interference and blocking small molecules
- Detecting new viruses, describing diseases caused by climate change and human influences
- Transit diseases
- Development of diagnostic procedures
- Participation in the development of domestic biosecurity and biosafety systems

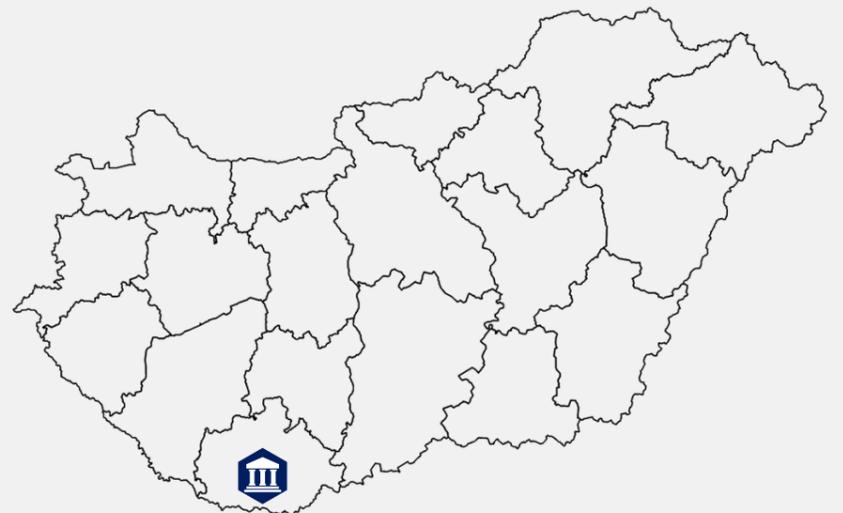


UNIVERSITY OF PÉCS
NATIONAL LABORATORY
OF VIROLOGY

IMPLEMENTER:

University of Pécs

PLACE OF IMPLEMENTATION: Pécs



BENEFITS TO BE EXPECTED FROM LABORATORY RESEARCH

- Significant increase in basic and applied research activity in the field of virology in Hungary, and enhancement of its national and international recognition.
- Building on the foundations of research activity, it will create cohesion between local SMEs, large pharmaceutical, diagnostics and vaccine companies, the public sector, and academic research centres and universities.
- Creating multidisciplinary through the combined work of several disciplines.
- Supporting biodefence and biosafety programmes in Hungary at research level.
- Through professional networking, it will be possible not only to increase laboratory activity but also to monitor the clinical background of viral infections.
- Research may even result in proprietary systems that have such added value that they could be exploited as an intellectual creation in their own right (e.g. know-how, invention).
- Training, participation in graduate and postgraduate courses.

THE PROFESSIONAL TEAM

Prof. Dr. Ferenc Jakab (lead researcher)

Virologist, head of department, head of the National Laboratory of Virology, doctor of the Hungarian Academy of Sciences. He has been engaged in virological research for more than 20 years. His main area of research is the study of viral zoonoses from animals to humans, as well as highly infectious viruses, supported by a unique Biosafety Level 4 virology laboratory. He is a member of the Hungarian Society of Microbiology, the Hungarian Society of Infectious Diseases and Clinical Microbiology, and the Hungarian Society of Zoonoses. From 2008 he was the secretary of the Hungarian Academy of Sciences, the Academic Committee of Pécs, the Working Committee of Microbiology, then from 2017 he was the chairman of the same Committee, the Commission of Biological Sciences. Since 2017, he has been the Hungarian delegate of the Council of the European Society of Clinical Virology. He is currently a member or chairman of several university committees and a deputy scientific dean of the Faculty of Sciences.

Dr. Gábor Kemenesi (postdoctoral researcher)

Dr. Gábor Kemenesi graduated as a biologist at the University of Pécs, then in 2018 he defended his doctorate summa cum laude in the field of biological sciences. He is currently an assistant professor at the Department of Genetics and Molecular Biology, University of Pécs (UP) Faculty of Sciences (FS). His main field of research is the detection and complex molecular biological-virological investigation of highly pathogenic zoonotic pathogens. He is a member of the European Mobile Laboratory Network, which provides humanitarian assistance in emergencies.

Mónika Madai (pre-doctoral researcher)

Mónika Madai graduated in 2010 from the FS of UP with a degree in biology and environment. He started his doctoral studies in 2012 and is currently working in the National Laboratory of Virology as a researcher. Serological tests and is involved in animal experiments and is actively involved in research and animal experiments in the BSL-4 laboratory.



THE PROFESSIONAL TEAM

Dr. Anett Kuczmog (postdoctoral researcher)

Dr. Anett Kuczmog graduated as a biologist at the University of Pécs in 2006, and in 2012 he defended his doctoral degree in biological sciences. He is currently an assistant professor at the Department of Genetics and Molecular Biology of the UP, where his main field of research is genetic mapping of natural agrobacterial resistance in vines. She joined several different projects of the National Laboratory of Virology, her main task is the near future to study the gene expression changes in the background of the mechanism of action of viral infections and antiviral synthetic substances that can be used against them.

Balázs Somogyi (pre-doctoral researcher)

Balázs Somogyi completed his university studies at the FS of UP, where he obtained an MSc degree in Biology in 2015. After that, he was admitted to the Doctoral School of Biology and Sports Biology of the University of Pécs, and his scientific degree is currently being obtained. He joined the National Laboratory of Virology, where as a researcher he mainly processes data processing and statistical evaluation of research results. His research interests include the study of the ecology and density-dependent mechanisms of viral zoonoses and their vectors. In addition to his comprehensive laboratory work, he manages the operating conditions of the BSL-4 laboratory.

Henrietta Papp (PhD student)

She graduated from the Faculty of Science and Informatics of the University of Szeged, majoring in Biology. She completed her undergraduate degree in 2013 and her Master's degree in 2016. During her master's degree, she spent one month in Vienna and 10 months in the United States as a trainee biologist. She started his doctoral studies in 2017 at the Doctoral School of Biology and Sports Biology of the University of Pécs. She has participated in several different projects in the National Laboratory of Virology, her main task is to study the antiviral effect of different synthetic compounds.

Dr. Fanni Vivien Földes (postdoctoral researcher)

She completed his Master's degree in Biology at the FS of the UP until 2016. She defended her doctoral degree in 2021. In recent years, she has been involved in basic research work in the National Laboratory of Virology on the inhibition of viral infection of small protein molecules and has been actively involved in virology research in the BSL-4 laboratory.

Brigitta Zana (pre-doctoral researcher)

Brigitta Zana is a biologist and medical biotechnologist at the UP. She started her doctoral studies in 2015 at the Doctoral School of Biology and Sports Biology of the University of Pécs, during which she obtained her diploma and started the degree procedure. Brigitta Zana is currently a member of the National Laboratory of Virology, where she works as a researcher. Her role in the research team is mainly focused on human pathogenic and non-pathogenic viruses transmitted by mosquitoes, but she is also actively involved in BSL-4 laboratory work.



THE PROFESSIONAL TEAM

Safia Zeghib (PhD student)

Safia Zeghib graduated in 2010 from the Department of Molecular Genetics at the University of Mentour in Algeria. She earned her master's degree in 2012 with a degree in basic and applied genetics from USTHB University in Algeria. She began her doctoral studies in 2015 at the Doctoral School of Biology and Sports Biology, University of Pécs. She has extensive knowledge of molecular biology and bioinformatics techniques. She will also be involved in data analysis and experimental work in the future.

Zsófia Lanszki (PhD student)

Zsófia Lanszki studied at the FS of the UP, BSc in Biology (2017) and then MSc in Biology (2019). She is currently a doctoral student at the Doctoral School of Biology and Sports Biology, University of Pécs (2019-). Also, works in the Virology Research Group (2018-), where it is responsible for the detection and research of viral zoonoses, ie diseases caused by viruses that spread from animals to humans.

Gábor Endre Tóth (PhD student)

He graduated from the Faculty of Science and Informatics of the University of Szeged in 2016 with a bachelor's degree in Biology. He obtained his master's degree at the University of Pécs in 2019 and is currently a first-year PhD student at the Doctoral School of Biology and Sports Biology. He joined the National Laboratory of Virology and his main area of interest is emerging infectious diseases, including viruses with zoonotic potential spread by bats. Its main tasks include field sampling, laboratory processing of the collected samples and execution of new generation sequencing.

Number of additional collaborator partners: 12 researchers

POSSIBLE PARTNERSHIPS

Collaborator partners in both laboratory work and field sampling. In the case of laboratory work, we want to achieve mutual researcher mobility, while in the case of field work, we primarily want to ensure the provision of geographical areas that are difficult for us to reach, but important from a virological point of view. Such may be the case in certain regions of Africa or Asia, where we can carry out the collection of samples in cooperation with local partners.

TARGET GROUP

- Mainly research institutes
- University research centers
- Pharmaceutical companies
- Small and medium R&D companies
- National defense and security services

PROFESSIONAL CONTACT

PROF. DR. FERENC JAKAB

Full Professor



| jakab.ferenc@pte.hu



| +36 30 431 8791