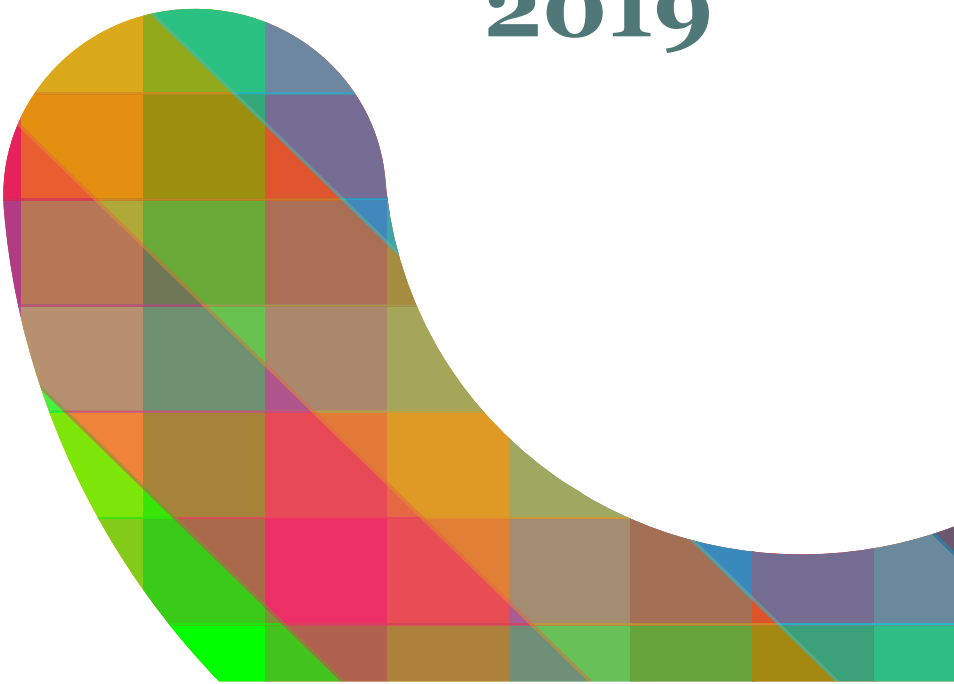


# VRI YearBook 2019





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Dear readers,

The YearBook of the Veterinary Research Institute is traditionally appearing, this time for the seventh year in a row. In the YearBook, we would like to present to you again the key scientific research efforts and other activities concerning transfer of results and knowledge accomplished at the VRI's departments in 2019.

In addition to the research results, significant events and social events in the life of our Institute are included in this publication.

The year 2019 was successful for the Institute both in terms of achieving scientific research results and collaboration intensity with other domestic and foreign institutions, breeders' associations, agricultural and food-processing companies, as well as biotechnology and pharmaceutical companies. Continuous communication with non-governmental organisations took place with the aim of extending mutual collaboration in applied research. For the needs of primary agricultural production, the VRI was a professional guarantor of preventive-medicine programmes in farm animal herds, development of reproductive technologies, diagnostic kits and vaccines, monitoring the resistance of pathogenic microorganisms to antibiotics and development of rapid diagnostic tes-

ts for its assessment, monitoring of environmental xenobiotics and their impact on feed contamination and consequently on farm animal health, etc. The VRI scientists gave regular lectures to agricultural and food-processing companies during professional seminars and provided them with professional counselling. As the series of workshops entitled "VRI Fest" aroused a great interest last year, it was repeated this year and extended by the introduction of currently implemented topics.

From a scientific point of view, it should be noted that, thanks to institutional and special support, 75 papers were published in peer-reviewed scientific journals classified in specific scientific fields described as Q1/Q2 category. At the same time, special emphasis should be put on the number of granted national patents and other results transferred to end users, including utility models and certified methodologies where an important role was played by the project implemented under the Technology Agency of the Czech Republic entitled "Development of the proof-of-concept support system at the VRI". This project was coordinated by the "Center for Technology Transfer and Project Support" and contributed to raised awareness of intellectual property protection. This project was completed in 2019.

An important milestone reached in 2019 was the accomplishment of the five-year sustainability project of the AdmireVet Center (NPU I) entitled Healthy Animal as a Source of Healthy Food (OneHealth) by the external examination process which took place on 21 May 2019 in the presence of officials from the Ministry of Education, Youth and Sports. The Review Board evaluated this project as "V" which means excellent results of international significance.

The principal tasks of the Institute for 2020 are to ensure continuous development of its capacities and the level of scientific infrastructure, and to improve the level of excellence of research teams, as well as to strengthen collaboration with agricultural and veterinary sector partners and other potential end-users of research results and expertise.

I would like to thank all VRI staff members for their conscientious efforts which we firmly believe will produce the most outstanding results in the years to come.

Prof. MVDr. Alfred Hera, CSc.

Acting Director

## The VRI is a new member of the Association of Research Organizations (AVO)

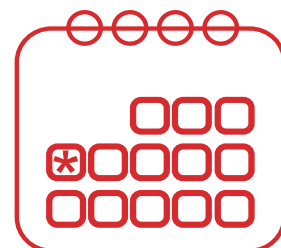
The first meeting of the representatives of the Veterinary Research Institute and the Association of Research Organisations of which the VRI is a new member took place in 2019. During the meeting, the participants mainly addressed the future cooperation in preparing new research projects, involvement in international consortia and the VRI presentation within the AVO.

The meeting was also attended by the directors of the organizational unit of VRI Brno and VFU Brno together with research team leaders. A committee composed of these leaders then selected three best presentations which were awarded.



AVO

## SIGNIFICANT EVENTS



## Plenary session of the Czech Academy of Agricultural Sciences (CAAS)

On 5 March 2019, the plenary session of the Czech Academy of Agricultural Sciences took place in the building of the Ministry of Agriculture of the Czech Republic. The following speakers addressed the audience: CAAS representatives – RNDr. Jan Nedělník, Ph.D., Chairman of the Board, Ing. Hana Urbancoová, Ph.D., Director, and Doc. Ing. Radim Vácha, Ph.D., Chairman of the Publishing Council; and the following guests, among others – Ing. Pavel Sekáč, Ph.D., Deputy Minister of Agriculture, and Ing. Zdeněk Jandejsek, CSc. President of the Agrarian Chamber of the Czech Republic. During the meeting, the CAZV prizes were presented. This year, two scientists from the Veterinary Research Institute were awarded in appreciation of their extraordinary contribution to the development of science and research in the agrarian sector:

- MVDr. Kamil Kovařík, Ph.D.
- MVDr. Martin Faldyna, Ph.D.



# First Student Conference of the Molecular Veterinary Programme under CEITEC

On 26 April 2019, the first student conference was held at the Veterinary Research Institute under the auspices of the Molecular Veterinary Medicine Programme, CEITEC. The aim of the conference was the meeting of PhD students from the Veterinary Research Institute in Brno and the University of Veterinary and Pharmaceutical Sciences Brno. The introductory lecture entitled **„Structure of gut microbiota in farm animals and selection of new bacterial strains with probiotic potential“** was presented by Assoc. Prof. RNDr. Ivan Rychlík, Ph.D. In short presentations, the students informed about their research project topics and results obtained so far.

The conference was attended by the directors of the organizational unit of the VRI in Brno and VFU Brno together with leaders of specialized research teams. A scientific committee consisting of these leaders then selected three best presentations which were awarded.





## Science Fair 2019

Between 5 and 8 June 2019, employees of the CTT PS, Ing. Jan Čáslavský, Ing. Martina Křivánková, together with Mgr. Nikol Reslová actively participated in the Science Fair 2019 in Prague Letňany on the premises of the PVA EXPO.

The currently implemented projects (OP RDE, CEI-TEC, EJP) in the form of large posters and information about the Institute, its structure, activities, and other general information useful for the non-professional and professional public were presented at the stand of the Veterinary Research Institute. Furthermore, entertaining activities were prepared for visitors in which they could actively participate. These activities included the isolation of their own DNA, knowledge competitions, 3D tour of laboratories, thermal cameras and viewing blood smears under a microscope.

During the fair, the stand was visited mainly by primary school pupils and secondary school students, but also by students of universities with different specializations, as well as the professional and nonprofessional public. The current needs of breeders and the possibilities of our assistance were consulted, e.g. in the area of American foulbrood of honey bees.

The public were very interested in the activities presented at our stand and appreciated our approach and, above all, the clarity of explanation of the presented activities.





## The VRI participated in the Science Festival of South Moravia

On 6 and 7 September 2019, employees of the CTT PS, Ing. Markéta Osinová and Ing. Martina Křivánková actively participated in events organized under the auspices of the Statutory City of Brno, the South Moravian Region and the Observatory and Planetarium of the City of Brno entitled „Science Festival with South Moravia“, which took place at the Traffic Park Riviera in Brno. The event was intended primarily for schools and for the public.

At the stand of the Veterinary Research Institute, the participants could test not only their theoretical knowledge in the field of veterinary medicine in the form of a scientific quiz, but also their skills in performing simple laboratory experiments. As a reward, the participants received some of the Institute's promotional products, a test tube with their own DNA or a Petri dish with bacteria from their fingers and mobile phone. Activities for the youngest participants were prepared in the form of colouring books, mazes and simple farm animal quizzes.

In addition to these activities, information about the Institute was presented, including its structure, activities and the currently implemented projects PROFISH, PRO-BIOTIKA, HAIE, CEITEC, FIT and One Health (MAD-Vir, ListAdapt, AIR-SAMPLE, MoMIR-PPC).



## Presentation of the Veterinary Research Institute at the 46th year of the Agricultural Fair “Bread Basket” in České Budějovice



From 22 to 27 August 2019, the activities of the Veterinary Research Institute were presented in a shared exhibition together with the other public research institutions under the Ministry of Agriculture of the Czech Republic within the 46th year of the Agricultural Fair “Bread Basket” in České Budějovice.

The results of basic and applied research conducted under the following research projects were presented in the form of handouts and posters: FIT (Pharmacology, Immunotherapy, nanoToxicology) CEITEC (Central European Institute of Technology in the Czech Republic)

Immunopharmacotherapy

CEREBIT (Centre for Recombinant Biotechnologies and Immunotherapeutics)

Probiotika (Probiotic bacteria of intestinal microflora as the basis of animal health and welfare)

HAIE (Healthy aging in industrial environment)

PROFISH (Sustainable production of healthy fish in various aquaculture systems)

One Health (European Joint Programme - OHEJP)

- MAD-Vir
- ListAdapt
- AIR-SAMPLE

- MoMIR-PPCAs part of this Agricultural Fair, a number of meetings were held with representatives of the Czech Ministry of Agriculture, universities, Association of research institutions and private companies.

## The VRI presented at the Researchers' Night

On September 27, 2019, as part of the nationwide initiative, the "Researchers' Night" event took place on the topic of "Be considerate to the Planet Earth".

This popular educational event is intended for the general public. This year, for the first time, the VRI in cooperation with the Faculty of Chemistry of BUT and the company EKO-KOM, a.s. organized an entertaining programme for visitors in the Faculty of Chemistry. At the VRI stand, the participants could see practical examples of scientific experiments, which were supplemented by Doc. Rychlík's theoretical presentation on the topic "Healthy animal as a source of healthy food".

At other stands, participants could also try out activities aimed at taking care for the environment, waste sorting and disposal.



## A vaccine against Salmonella infections in pigs was registered



A vaccine against Salmonella infections in pigs developed under the project NAZV QJ1210115 at the Department of Immunology of the VRI in cooperation with Bioveta a. s. was successfully registered in 13 countries of the European Union, including the Czech Republic.

The uniqueness of the vaccine lies in the use of inactivated antigens and, therefore, there is no risk of transferring the vaccine strain to other animals or humans. Another major advantage is the development of a diagnostic method allowing serological differentiation between vaccinated and infected animals using patented antigens.

The vaccine is available under the name Biosuis Salm Bioveta a. s. for on-farm administration.

## A celebratory meeting of members of the Czech Academy of Agricultural Sciences

On 24 October 2019, a celebratory meeting was held in the Auditorium of Mendel University in Brno on the occasion of the 95th anniversary of the establishment of the Czech Academy of Agricultural Sciences.

The aim of the meeting was to look back at the history of the Academy. During the meeting, the emeritus chairmen and vice-chairmen of the Academy, including Prof. MVDr. Karel Hruška, CSc., who had been director of the Veterinary Research Institute for many years, ad-

ressed the gathering, or their letters were presented. Commemorative letters of thanks were given to the partners of the Academy for their cooperation in the field of science and research in the agrarian sector. Some of the significant accomplishments of the colleagues from the Department of Veterinary Medicine were mentioned, such as the registered vaccines BioBos Respi and BioSuis Salm.





# OUTSTANDING OUTCOME AWARDS

## Best lecture award 2019 goes to Mgr. Hrdý

Within the 15th annual conference on “RANK” (Routine Analysis of Nucleic Acids by molecular biology techniques), held on 6-7 February 2019 in Pardubice, the Evaluation Committee of the competition presented the prize for the best lecture of young authors under the age of 35 to Mgr. Jakub Hrdý (the VRI's Department of Food and Feed Safety).

The winning lecture was focused on the isolation and detection of noroviruses from drinking and service water samples.



## Medica Veterinaria 2018 Award

On February 20, 2019, a celebratory meeting of outstanding personalities of veterinary medicine “Medica Veterinaria 2018” took place in the Baroque refectory of the monastery of St. Giles in Prague under the auspices of the Chancellor of the University of Veterinary and Pharmaceutical Sciences Brno, President of the Chamber of Veterinary Surgeons of the Czech Republic and Director General of the State Veterinary Administration.

The meeting was organized by the Profi Press Publishing House.

On this occasion, the prizes are annually awarded for: extraordinary contributions to veterinary medicine  
lifetime contributions to veterinary medicine  
professional papers in the journals Veterinářství or Veterinární klinika

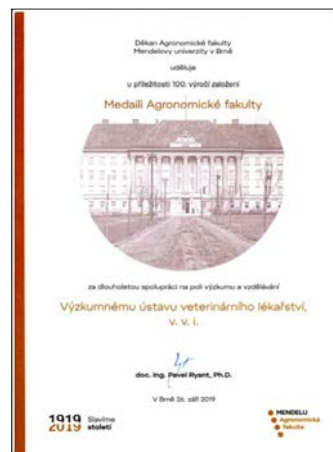
In the meeting, MVDr. Ján Matiašovic, Ph.D. from the Department of Immunology of the Veterinary Research Institute was awarded for extraordinary contribution in



the field of research and development of a unique inactivated vaccine against three Salmonella serovars, intended for immunization of sows and protection of suckling piglets, and for the development of a serological method allowing the differentiation between infected and immunized animals.

## The Faculty of Agronomy of Mendel University in Brno presented the VRI with a medal

Marking the Centenary of the establishment of Mendel University in Brno, a ceremonial meeting of the Scientific Board of the Faculty of Agronomy of Mendel University in Brno was held on 26 September 2019. During this meeting, a Medal of the Faculty of Agronomy recognizing the long-term cooperation in research and education was presented to the Veterinary Research Institute.





## MVDr. Soňa Šlosárková, Ph.D. awarded for her contribution to sheep and goat breeding in the Czech Republic

On 8 and 9 November 2019, an international conference of sheep and goat breeders was held in Kouty in the Congress Hotel LUNA.

During the conference, MVDr. Soňa Šlosárková, Ph.D. was presented with an award by the Director of the Sheep and Goat Breeders Association (SCHOK) for her contribution to the development of sheep and goat breeding in the Czech Republic. Dr. Šlosárková has been cooperating for many years with the Association in the field of veterinary care.



## Doc. Růžek's team awarded

On 14 November 2019, Doc. Daniel Růžek received the Certificate of Appreciation from Prof. Chao-chin Chang, DVM, Ph.D., Dean of the College of Veterinary Medicine, National Chung Hsing University in Taichung, Tchaj-wan.

Prof. Chang appreciated the contribution of Doc. Růžek's team to the development of veterinary medicine and biomedicine.

He particularly emphasized the results obtained by Doc. Růžek's team in the field of research into tick-borne encephalitis and other flavivirus infections that have a significant global impact.





# EDUCATIONAL SEMINARS

## Seminar - Control of Environmental Hygiene and Product Safety in Dairy Operations

On 13 June 2019, a seminar entitled Control of Environmental Hygiene and Product Safety in Dairy Operations was held at the Lecture room of the Institute, organized by the Veterinary Research Institute in Brno in cooperation with the Dairy Research Institute, Ltd. and BioIng, s.r.o. The implementation of the project QK1710156 of the National Agency for Agricultural Research under the EARTH programme was presented at the event.

Dr. Němečková from the Dairy Research Institute opened the seminar by presenting the project New Approaches and Methods of Analysis to ensure the quality and safety of cheeses, optimization of their production and improvement of hygiene and sanitation processes while reducing the burden of wastewater on the environment. Furthermore, she delivered the lecture entitled "The most important technologically undesirable microorganisms in dairy industry, their properties and activities". The next speaker was Dr. Gelbíčová from the Veterinary Research Institute who delivered a lectu-

re on the topic of the Control of the occurrence and spread of *Staphylococcus aureus* in dairy industry followed by Dr. Šviráková from the University of Chemistry and Technology in Prague with a lecture concerning the microbiological risk of acetic acid bacteria in the production of whey beverages. A representative of BioIng, s.r.o. Ing. Pelikánová presented news in the field of "Sample collection for microbiological monitoring of the production environment" and Ing. Strnadová closed the seminar programme with a lecture on "Effective control of cleaning solutions, rinsing water and wastewater in the food industry". The seminar was attended by 45 professionals from food-producing companies, technologists, laboratory staff and university teachers.



## A course for employees of microbiological laboratories was held at the VRI



On 4 June 2019, a course for employees of microbiological laboratories from the Czech and Slovak Republics was held in Brno under the auspices of the Slavičková agency and the Veterinary Research Institute.

The training course led by the staff of the Department of Bacteriology was focused on bacterial detection and confirmation methods, including practical demonstrations.



## Professional seminars hosted by the Veterinary Research Institute – “The VRI Fest from research to end users”

In 2019, the Veterinary Research Institute of Brno hosted a series of 7 seminars entitled “VRI Fest” which were held at the Institute or elsewhere.

The spring series was represented by 3 seminars entitled “Management of sheep and goat health”, “Health of poultry on farms” and “The periparturient period in sows”. In the autumn series, the seminars were devoted to fish health, especially to the current incidence of KOI herpesvirus in the Czech Republic; to Bovine paratuberculosis, its control on farms and certification programmes; to health of honey bees in apiculture, especially to the American Foulbrood of honey bees; and to new procedures and technologies in the production of vaccines, including recombinant vaccines.

In 2019, the above mentioned “VRI Fest” seminars were supplemented with other 3 events organized by the VRI which, however, took place under the auspices of the ČTPZ (Czech Technology Platform for Agriculture). In the spring, a seminar entitled “How to achieve successful reproduction in dairy cattle

herds”, which focused on ensuring the health of cows during the transition period took place in Humpolec. The second seminar dedicated to African swine fever acquainted the attendees with the development of the disease in the Czech Republic from its first detection in June 2017 until its eradication in 2019. The autumn seminar “Bovine Mastitis and *Streptococcus uberis*” with foreign expert Andrew Biggs, BVSc, MRCVS, was very fruitful. He commented on the worldwide incidence of mastitis caused by *S. uberis*, explained the reasons for its spread and especially outlined the plans for this disea-

se control depending on whether the pathogen is an environmental strain or an adapted strain persisting in the mammary gland.

In total, over 600 attendees took part in all seminars, with the lecturers being both VRI researchers and experts from other research institutes. The VRI Fest project met the set goal of transferring relevant knowledge of both research and, more generally, new developments to a broad range of users in agriculture and veterinary spheres.

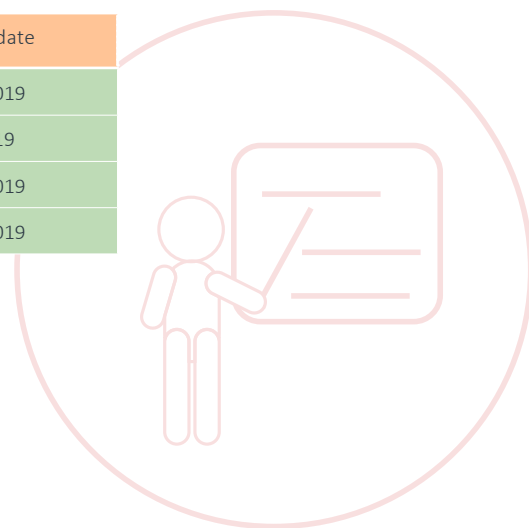


Seminars co-financed by the annual educational plan of the Ministry of Agriculture of the Czech Republic 2020	Seminar dates
VRI Fest – Management of health in sheep and goat herds	09.3.2019
VRI Fest – Health of poultry on farms	10.4.2019
VRI Fest – The periparturient period in sows	17.4.2019
VRI Fest – Health issues in farmed fish	25.9.2020
VRI Fest – Bovine paratuberculosis, its control in herds, certification programme	9.10.2019
VRI Fest – Bee health in apiculture	30.10.2019
VRI Fest – Recombinant vaccines for the 21st century	21.11.2019

Seminars under the auspices of the Czech Technology Platform for Agriculture	Seminar dates
African swine fever	29.5.2019
How to achieve successful reproduction in dairy cattle herds	25.4.2019
Bovine mastitis caused by <i>Streptococcus uberis</i>	21.10.2019

## Other professional and educational events

Event name	Event date
Detection of pathogenic strains of <i>Escherichia coli</i>	28.1.2019
Microbiology in practice	4.6.2019
Environmental hygiene control practices for product safety in dairy plants	13.6.2019
CEITEC Molecular Veterinary Medicine Student Conference	26.4.2019





## Cross-Border cooperation programme Interreg V-A Austria-Czech Republic for programming period 2014-2020

Initiative to support research and innovation capacity of veterinary services in poultry production

### ABOUT THE PROJECT:

Closer professional and intercultural cooperation between both partner institutions and strategic partners for active cooperation in the field of science and poultry industry and for improvement of the knowledge base in this sector and region

### PROJECT PARTNER

**University of Veterinary  
Medicine, Vienna**

Contact: Doc. RNDr. Ivan Rychlík, Ph.D.  
Phone: 420 5 3333 1201, E-mail: [rychlik@vri.cz](mailto:rychlik@vri.cz)



# New projects in 2019

In 2019, the implementation of several new research and development projects was launched. These projects were obtained by VRI employees within the framework of public tenders announced by national grant providers.

A total of 10 projects were selected for funding and launched under a call from the Earth Programme of the National Agency for Agricultural Research of the Ministry of Agriculture. Within the calls announced by the Czech Grant Agency, a total of 4 projects succeeded, two of which are implemented by the VRI in the role of recipient. In 2019, the project entitled Contactless identification of animals with altered temperature due to dangerous infection by thermovision was also launched. This project is funded by the Ministry of the Interior under the security research programme for the needs of the government. Furthermore, the VRI became the recipient of a subsidy for two projects launched in 2019, financed under the Programme for the Support of Applied Healthcare Research.

From the point of view of the long-term plan of the Institute, the key milestone was to obtain and start the implementation of the project Sustainable production of healthy fish in various aquaculture systems - PROFISH, financed from the Operational Programme Research, Development and Education, with a budget of CZK 95 million. Other partners in this five-year project are the University of South Bohemia in České Budějovice (Faculty of Fisheries and Protection of Waters) and Mendel University in Brno (Faculty of Agronomy). In 2019, a project was also launched under the Inter-Excellence programme of the Ministry of Education, Youth and Sports entitled Research of new nucleoside analogues as antivirals against medically important flaviviruses, with the Institute of Organic Chemistry and Biochemistry of the CAS, v. v. i. as partner.

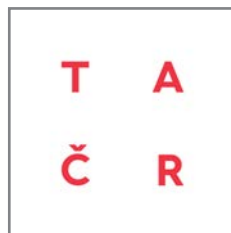
Within the VRI Fest 2019, three projects focused on the education of the professional public were accomplished as an extension of the activity in previous years.

## PROJECTS IN 2019

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We implement projects in cooperation with...



## PROGRAM 9 F.I.

Principal investigator: VRI Brno:

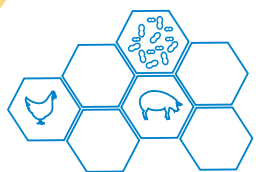
MVDr. Soňa Šlosárková, Ph.D.

Major recipient: Veterinary Research Institute

Based on the Principles setting out the conditions for granting subsidies for 2017 issued by the Ministry of Agriculture, the VRI applied to the State Agricultural Intervention Fund (SAIF) requesting a subsidy for the "9. F. i." programme: Support for Agricultural Consultancy, Professional Consultations. Under this programme, the VRI planned to provide 480 hours of consultations and 100 hours devoted to innovations at a total cost of CZK510,000, for which sum the VRI applied to be reim-

bursed in the form of a grant.

In fact, for the whole of 2017, VRI employees provided 281.1 hours of consultations (58.6% of the planned time) and 92.5 hours devoted to innovations (92.5% of the planned time); 448 consultations/innovations were conducted. Consequently, an application was made for the grant to be paid in the reduced sum of CZK 349,600 in two reimbursements (July, December 2017). The subsidy was paid and remitted to the VRI account and from it to the relevant employees according to the hours spent in consultations/innovations after deduction of Institute's overheads in two repayments in the wages.



PROBIOTIKA

**Probiotic bacteria  
of gut microbiota  
as the basis of animal  
health and welfare**

#### Project aims

- ⊙ Selection of new bacterial isolates from poultry and pigs and determination of their complete genome sequence
- ⊙ Verification of the ability of these isolates to colonize the digestive tract of chickens and piglets
- ⊙ Testing the host response to colonization with selected bacterial isolates with probiotic potential
- ⊙ Identification of probiotic isolates that enhance the natural resistance of chickens and piglets to infection with Salmonella, Campylobacter and pathogenic *E. coli* including antibiotic-resistant clones

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EUROPEAN UNION  
European Structural and Investment Funds  
Operational Programme Research,  
Development and Education

**MSMT**  
MINISTRY OF EDUCATION,  
YOUTH AND SPORTS

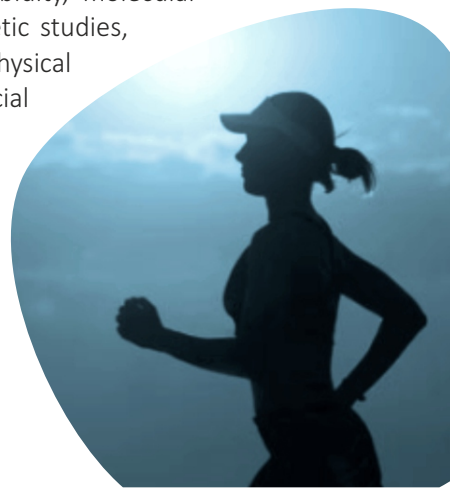


**Healthy Aging  
in Industrial  
Environment**

#### Project aims

- ⊙ The project addresses the effects of selected environmental and lifestyle risk factors on health and population aging in an industrial area.
- ⊙ Numerous studies are being conducted under four research programmes in different population samples (mortality, morbidity, molecular-epidemiological and genetic studies, cytogenetic studies, exposure studies, fertility studies, increased physical activity studies, socioeconomic and psycho-social studies).
- ⊙ People living in an environmentally polluted industrial agglomeration will be compared with those of environmentally non-polluted areas.

Contact: Prof. MVDr. Jiří Rubeš, CSc.,  
Phone: +.:+420 72144 1493, E-mail: [rubes@vri.cz](mailto:rubes@vri.cz)





**Central European  
Institute of Technology –  
CEITEC is a research  
centre associating six  
partner institutions.  
Multidisciplinary  
research takes place in  
more than sixty  
research groups.**

- ⊙ Research within CEITEC at the VRI focuses on basic and applied research in the field of reproduction, animal models and advanced light microscopy methods
- ⊙ Our institution is involved in a wide network of collaboration with both national and international academic centres and participates in producing results that are disseminated to end-users.

Director of the CEITEC organizational unit at the VRI: MVDr. Martin Anger, CSc.  
Contact: Phone: +420 5 33331411, E-mail: [anger@vri.cz](mailto:anger@vri.cz)



EUROPEAN UNION  
European Structural and Investment Funds  
Operational Programme Research,  
Development and Education

**MSMT**  
MINISTRY OF EDUCATION,  
YOUTH AND SPORTS



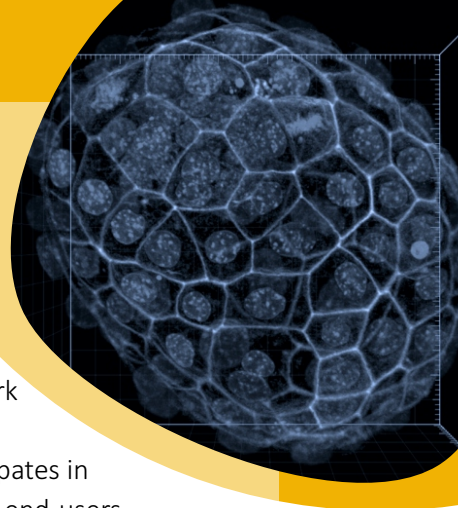
**PHARMACOLOGY  
IMMUNOTHERAPY  
TOXICOLOGY**

Project aim:

- ⊙ The main objective of the FIT project is to build a European research centre for nanomedicine and medical nanotechnology with a unique infrastructure for research and development of recombinant vaccines and targeted anti-infective and anti-cancer therapies.

The following are involved in the project:  
Department of Pharmacology and  
Immunotherapy; Department of Chemistry  
and Toxicology; and Department of Virology.

Key Researcher of the project: Prof. Andrew D. Miller, Ph.D. Contact:  
Phone: +420 777357253, E-mail: [miller@vri.cz](mailto:miller@vri.cz)





## Centre for Recombinant Biotechnologies and Immuno- therapeutics

### Project aims

- The project focuses on the development of recombinant high-affinity ligands, recombinant proteins and DNA vaccines with corpuscular carriers and molecular adjuvants, which represents a new biotechnological trend in the development of recombinant vaccines, highly selective immunotherapeutics, diagnostics and theranostics.
- The success of multidisciplinary research is based on the cooperation of four renowned teams with a high quality of staffing and infrastructure (UP Olomouc, VRI Brno, IBT Prague, UCT Prague).

Contact: Doc. RNDr. Jaroslav Turánek, DrSc., Phone.: +420 777787174, E-mail: [turanek@vri.cz](mailto:turanek@vri.cz)



EUROPEAN UNION  
European Structural and Investment Funds  
Operational Programme Research,  
Development and Education



## Sustainable production of healthy fish in various aquaculture systems

### Project aims

- Study of relationships between fish, pathogens and environmental conditions affecting fish health and economic output from aquaculture production.
- Study of technological, animal husbandry and nutritional factors, the effects of environmental pollution and the use of antibiotics. Further activities will be aimed at the investigation of causative agents of infectious diseases and immune mechanisms.

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Phone.: +420 777786695, E-mail: [faldyna@vri.cz](mailto:faldyna@vri.cz)







# International projects

The VRI's priority in this area in 2019 was to search for and participate in shared international projects and to strive for success in grant competitions and tenders for R&D tasks at the international level.

The aim of the Institute in this area is to build on previous experience in implementing international R&D projects and use them for obtaining new grant projects, especially under the H2020 programme, Norwegian funds and others.

In 2019, the implementation of the European Union project – FISHBOOST continued. This project was funded by the 7th EU Framework Programme and other projects of the One Health European Joint Programme, which is coordinated by the French agency for Food, Environmental and Occupational Health & Safety (ANSES). On 1 June 2019, the implementation of a new project financed under the Interreg V-A Austria-Czech Republic cross-border cooperation programme entitled Innovations in Poultry Medicine (INPOMED) was launched.

## Project aim:

Establishing a European framework for One Health sustainability by integrating and harmonizing research activities, in the fields of human and veterinary medicine and food production through joint planning of research agenda to meet the requirements of European and national policy makers and stakeholders.

The Project includes the following areas:

- Foodborne Zoonoses (FBZ)
- Antimicrobial Resistance (AMR)
- Emerging Threats (ET)

Contact: Doc. MVDr. Renáta Karpíšková, Ph.D.  
tel.: +420 7777 86322, e-mail: karpiskova@vri.cz



The One Health  
European Joint  
Programme





## Projects with international participation

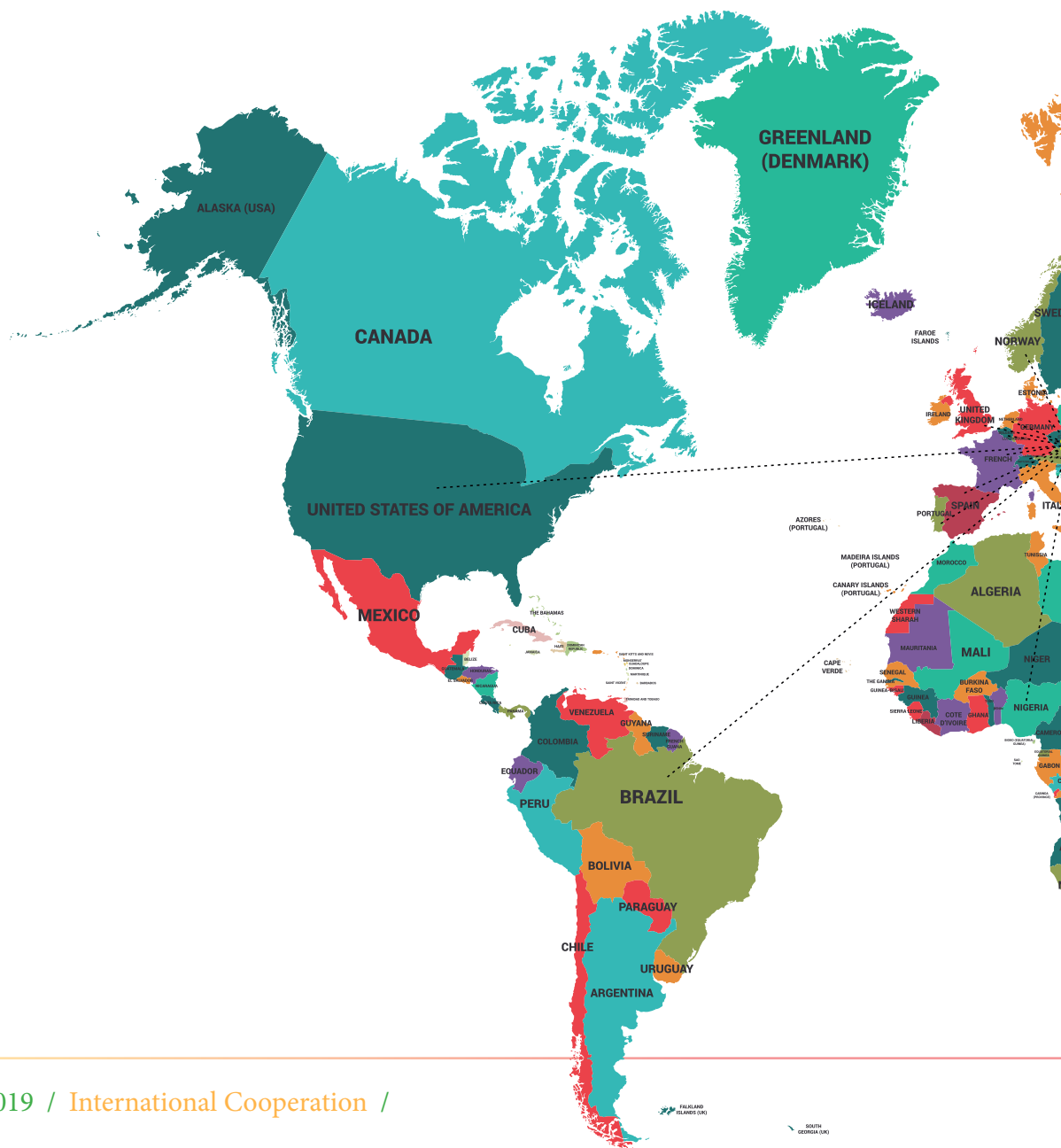
In 2019, several tens of international cooperation projects were implemented at the Institute. This category includes cooperation based on collaborative research with foreign research organizations and universities and cooperation based on contract research with foreign companies. At present, there is cooperation with several companies from abroad. This cooperation constitutes around 10% of the total financial volume of contract research. We can see potential in the possibility of expanding this cooperation, gaining experience and references.

In 2019, VRI researchers also carried out tens of foreign business trips with active participation in conferences, internships and seminars. Other purposes for business trips abroad, mobility and receiving foreign visitors were the development and expansion of traditional bilateral contacts and the conclusion of international formal or informal agreements. A total of 88 of them were signed in 2019.

# INTERNATIONAL COOPERATION



We cooperate with and travel to.....



26 countries around the world.



## A visit from the National Veterinary Research Institute in Nigeria

At the request of the International Cooperation Unit of the Ministry of Agriculture of the Czech Republic, representatives of the National Veterinary Research Institute in Nigeria paid a visit to our Veterinary Research Institute on 30 May 2019. The heads of the VRI research departments presented to the guests from Nigeria the research areas and topics that are currently being pursued here. Furthermore, the participants discussed the possibility of cooperation on the preparation of joint projects and activities related to veterinary medicine.



## Annual meeting of researchers involved in the international project Air-sample OHEJP Horizon 2020

On 15 – 16 October 2019, an annual meeting of investigators involved in the international project Air-sample OHEJP Horizon 2020 was held at the VRI. The employees of the Department of Bacteriology participate in this project implementation. The meeting was attended by 12 delegates from 5 countries (Denmark, Italy, Norway, Poland and the Czech Republic). During the meeting, the methodological procedures used, results achieved with the use of various detection methods including metagenomic profiling and the possibility of dissemination of the obtained results to the professional public were discussed.





## Workshop and a lecture entitled “Direct thrombus imaging for translational stroke research”

On 26 September, 2019, the VRI in Brno hosted a workshop and a lecture entitled “Direct thrombus imaging for translational stroke research”.

The workshop, organized by the Department of Pharmacology and Immunotherapy, was part of a two-day visit of Dr. Dong-Eog Kim, M.D., Ph.D. (Dongguk University, Seoul, South Korea) to Brno arranged by Doc. MUDr. Robert Mikulík, Ph.D. (FNUSA-ICRC).

Besides the lecture, the workshop included a tour of the laboratories of the Department of Pharmacology and Immunotherapy and a subsequent discussion on future cooperation.



## The VRI representatives participated in the international conference xMAP CONNECT

On 5–6 November 2019, the international conference xMAP® CONNECT was held in the historic building of the Royal Tropical Institute in Amsterdam.

In addition to a series of lectures, the conference also included a poster section, where the following employees from the Department of Food and Feed Safety presented the below mentioned papers:

Mgr. Iva Slaná, Ph.D

Employment of MOL-PCR in bacterial pathogen detection in small ruminants,

Ing. Pavlína Jelínková, Ph.D

Development of detection panel for simultaneous screening of biothreat agents *B. anthracis*, *Y. pestis*, *F. tularensis* and *Bruceella* spp. by MOL-PCR method,

Mgr. Magdaléna Krásna

Detection of African swine fever virus by xMAP® technology,

Mgr. Jakub Hrdý

xMAP technology - multiplex system for fast detection of viruses associated with food-/water-borne infections.

During the conference, a competition for the best poster was announced. Based on the evaluation of a professional committee, Mgr. Jakub Hrdý came first in the competition.





**Transfer of knowledge technologies and their commercialization** is a very important activity complementing the main mission of the Institute. The intellectual property protection policy is primarily focused on ensuring the use of the subjects created by the employees so that they produce maximum benefit for the VRI. The centre coordinating the activities related to the commercialization of new knowledge and technologies developed in the departments of the Institute is the Centre for Technology Transfer and Project Support (CTT PS). The main activities of CTT PS include monitoring of research activities and new knowledge, evaluation of commercial potential of the new knowledge, ensuring intellectual property protection of generated results, managing the intellectual property portfolio, consulting, providing contractual documents, preparing internal regulations, licensing policy, promoting results, counselling services, analyses and provision of external legal services.

CTT PS manages the Institute's Intellectual property database. Between 1999 and 2019, 23 national patents, 29 utility models and 9 international patents were registered. In the last 3 years, the Institute was granted 21 utility models, 6 national patents and 4 international patents.

In 2019, 9 utility models and 5 national patents were granted to the Institute; 13 functional samples, 12 certified methodologies, 4 certified technologies and 1 software were processed. The project of proof-of-concept support entitled "Development of a proof-of-concept support system at the VRI", which was implemented in 2016-2019 and financed under the GAMA TAČR programme contributed to the significant increase in the number of applied results. Thanks to the concept of sub-projects focused on proof-of-concept, it was possible to increase both the awareness of the need for intellectual property protection and the administrative estimate of the commercial potential of the result. Final reports of the completed partial projects were presented on 3 February 2020 at a meeting of the VRI Commercialization Council including specialists from the commercial sphere.

# TRANSFER OF RESULTS TO END-USERS



re. One of the key tasks of the CTT PS in 2019 was to strengthen cooperation with agricultural and veterinary spheres and other potential customers of research results and knowledge. Cooperation was established with the commercial and non-profit spheres in the form of applied research projects and expert activities with an effort for a long-term mutually beneficial impact. In

2019, contracts were concluded with domestic and foreign partners from the application sphere at the amount of approximately CZK12.1 million. These collaborations were accomplished in the form of licensing agreements, contracts for contractual research and research to order.

## Certified methodologies

Applied result No.	Title of the applied result	Authors
Certified methodology 122/2019, ISBN 978-80-88233-75-6	The Key to Pig Health- A structured list of health disorder treatments in keeping medical records, including the consumption of drugs in pig herds	Bernardy, J., Šlosárková, S., Fleischer, P., Nechvátalová, K., Kučerová, J., Faldyna, M.
Certified methodology 121/2019, ISBN 978-80-88233-70-1	Qualitative detection of Suid herpesvirus 1 using MOL-PCR	Krásna, M., Králík, P.
Certified methodology 120/2019, ISBN 978-80-88233-69-5	Qualitative detection of African swine fever using MOL-PCR	Krásna, M., Králík, P.
Certified methodology 119/2019, ISBN 978-80-88233-68-8	Qualitative detection of Yersinia pestis using MOL-PCR	Jelínková, P., Králík, P.
Certified methodology 118/2019, ISBN 978-80-88233-67-1	Qualitative detection of Francisella tularensis using MOL-PCR	Jelínková, P., Králík, P.
Certified methodology 117/2019, ISBN 978-80-88233-66-4	Qualitative detection of Brucella spp. using MOL-PCR	Jelínková, P., Králík, P.
Certified methodology 116/2019, ISBN 978-80-88233-65-7	Qualitative detection of Bacillus anthracis using MOL-PCR	Jelínková, P., Králík, P.
Certified methodology 115/2019, ISBN 978-80-88233-64-0	Qualitative detection of rotavirus using MOL-PCR	Hrdý, J., Králík, P.
Certified methodology 114/2019, ISBN 978-80-88233-63-3	Qualitative detection of noroviruses (genogroups GI GII) using MOL-PCR	Hrdý, J., Králík, P.
Certified methodology 113/2019, ISBN 978-80-88233-62-6	Qualitative detection of hepatitis E virus (HEV-1 HEV-3) using MOL-PCR	Hrdý, J., Králík, P.
Certified methodology 112/2019, ISBN 978-80-88233-61-9	Qualitative detection of hepatitis virus using MOL-PCR	Hrdý, J., Králík, P.
Certified methodology 112/2019, ISBN 978-80-88233-60-2	Qualitative detection of adenoviruses (serotypes 40, 41) using MOL-PCR	Hrdý, J., Králík, P.

# Functional samples

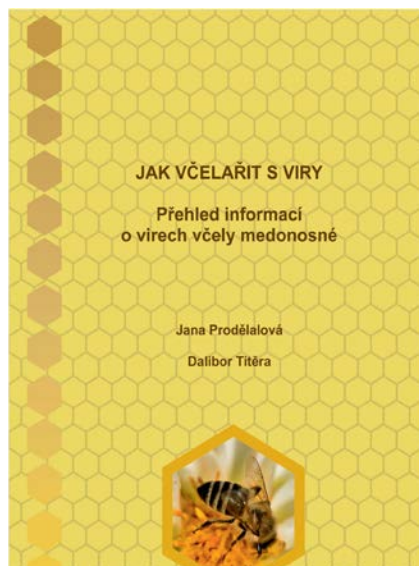
Applied result No.	Title of the applied result	Authors
Functional sample 5792/2019, ISBN 978-80-88233-86-2	Plasmid pUbEx20 production of proteins for commercial use in a heterologous <i>E. coli</i> expression system	Janda, L., Kobzová, Š., Norek, A.
Functional sample 5792/2019, ISBN 978-80-88233-85-5	Probiotic lysate reducing the amount of immunotoxic prolamins	Janda, L., Juřicová, H., Norek, A., Rychlík, I., Šťastná, M.
Functional sample 5719/2019, ISBN 978-80-88233-84-8	Production of a leukocyte extract by transfer factor activity	Krejčí, J., Štěpánová, H., Gebauer, J., Hlavová, K., Tesařík, R., Kudláčková, H.
Functional sample 5718/2019, ISBN 978-80-88233-83-1	Methodology for verification of biological activity of a preparation based on leukocyte extract by transfer factor activity	Štěpánová, H., Hlavová, K., Krejčí, J.
Functional sample 5703/2019, ISBN 978-80-88233-82-4	Methodical procedure for the analysis of soil samples for the presence of African swine fever virus DNA	Krásna, M., Vašíčková, P.
Functional sample 5704/2019, ISBN 978-80-88233-81-7	Method of isolation and detection of African swine fever virus DNA in meat matrices in meat products	Krzyžánková, M., Vašíčková, P.
Functional sample 5683/2019, ISBN 978-80-88233-80-0	Heterologous production of lipidated proteins by bacterial display of the <i>E. coli</i> pLipDis expression vector	Janda, L., Norek, A.
Functional sample 5684/2019, ISBN 978-80-88233-79-4	Method for detection of antibodies against <i>Haemophilus (Glaesserella) parasuis</i> using recombinant catalase protein	Kavanova, L., Matiašková, K., Tesařík, R., Salát, J., Gebauer, J., Faldyna, M.
Functional sample 5633/2019, ISBN 978-80-88233-78-7	Test kit for the analysis of problematic matrices for the presence of non-enveloped viruses with genome consisting of RNA	Krásna, M., Vašíčková, P., Hubatka, F., Kulich, P., Tesařík, R.
Functional sample 5561/2019, ISBN 978-80-88233-77-0	System for detection of Rotavirus C in stool samples by real-time reverse transcription PCR (RT-qPCR)	Moutelíková, R., Jana Prodělalová, J., Dvořáková Heroldová, M., Holá, V., Sauer, P.
Functional sample 5464/2019, ISBN 978-80-88233-76-3	Method for detection of tick-borne encephalitis virus in milk	Salát, J., Štefánik, M., Růžek, D.
Functional sample 4709/2019, ISBN 978-80-88233-71-8	Kit for determination of minimum inhibitory concentrations of antimicrobial agents for <i>Streptococcus uberis</i>	Zouharová, M., Nedbalcová, K., Matiašková, K.
Functional sample 3967/2019, ISBN 978-80-88233-59-6	Kit for determination of susceptibility/resistance of Gram-positive bacterial pathogens in poultry	Nedbalcová, K., Zouharová, M., Matiašková, K.
Functional sample 3966/2019, ISBN 978-80-88233-58-9	Kit for determination of susceptibility/resistance of Gram-negative bacterial pathogens in poultry	Nedbalcová, K., Zouharová, M., Matiašková, K.

## Verified technologies

Applied result No.	Title of the applied result	Authors
Verified technology 4758/2019, ISBN 978-80-88233-74-9	Production of a kit for the determination of minimum inhibitory concentrations of antimicrobial substances for <i>Streptococcus uberis</i>	Zouharová, M., Nedbalcová, K., Matiašková, K.
Verified technology 4747/2019, ISBN 978-80-88233-73-2	Production of a kit for determining the sensitivity/resistance of Gram-negative bacterial pathogens of poultry to antimicrobials	Nedbalcova, K. Zouharová, M., Matiašková, K.
Verified technology 4747/2019, ISBN 978-80-88233-72-5	Production of a kit for determining the sensitivity/resistance of Gram-positive bacterial pathogens of poultry to antimicrobials	Nedbalcova, K. Zouharová, M., Matiašková, K.
Verified technology 74/2019, ISBN 978-80-88233-56-5	Veterinary dietary preparation fortified with egg mass containing IgY antibodies specific against <i>Clostridium perfringens</i>	Krejčí, J., Kudláčková, H., Zouharová, M., Faldyna, M.

## Utility models

Applied result No.	Title of the applied result	Authors
Utility model 32606	Non-antibiotic preparation for the treatment of staphylococcal infections in farm animals	Říha, J., Vyletělová- Klimešová, M., Karpíšková, R., Koláčková, I. Doškař, J., Pantůček, R., Benešík, M.
Utility model 33402	Vaccine against <i>Salmonella Typhimurium</i> infection	Gebauer, J., Tesařík, R., Kudláčková, H., Matiašovic, J.
Utility model 33404	Gene fusion construct lysostafin	Janda, L., Norek, A., Kobzová, Š.
Utility model 33390	Gene construct for the production of lipoproteins by bacterial display of <i>E. coli</i> , its product	Janda, L., Norek, A.
Utility model 33420	Vaccine against <i>Haemophilus (Glaesserella) parasuis</i> , recombinant antigen for this vaccine	Kavanová, L., Matiašková, K., Gebauer, J., Tesařík, R., Faldyna, M., Salát, J.
Utility model 33427	Kit for the diagnosis of antibiotic resistance in veterinary bacterial pathogens	Nedbalcová, K., Krejčí, J., Huvarová, I., Matiašková, K., Audová, E., Ondriašková, R.
Utility model 33422	Kit for identification of a probiotic lactobacillus strain cleaving immunotoxic gluten peptides	Janda, L., Norek, A., Štastná, M., Juřicová, H., Rychlík, I.
Utility model 33428	Therapeutic-preventive preparation for the prevention in patients with <i>Clostridium difficile</i> infections	Krejčí, J., Kudláčková H., Zouharová, M., Audová, E., Gebauer, J., Tesařík, R., Faldyna, Smržová, Z., Ondráčková, P., Levá, L.
Utility model 33424	Diagnostic kit for multiplex detection of DNA of cattle, pigs, sheep, goats and chickens in food and feed by MOL-PCR method	Piskatá, Z., Králik, P., Servusová, E.



The booklet provides beekeepers with the information about the transmission routes of these viruses and diseases they can cause. Furthermore, it contains laboratory diagnostic methods of bee viruses, their occurrence in the Czech Republic, and the answer to the question of how to eliminate, at least partially, the pressure of viruses on hives weakened due to varroosis. The second half of the approximately 40-page publication includes the full text of the verified technology for the production of mothers free from specific pathogens, e.g. viruses, and a certified methodology for disinfection of beekeeping facilities and equipment acting against viruses.

The booklet was published by the Veterinary Research Institute with the support of the Ministry of Agriculture.





# Patents

Applied result	Title of the applied result	Authors
Patent No. 308092	Method for detection of <i>Faecalibacterium prausnitzii</i> by real-time PCR, a set of primers for this method of <i>F. prausnitzii</i> detection	Rychlík, I., Faldynová, M., Matiašovicová, J., Čejková, D., Kubasová, T., Kollarčíková, M., Karasová, D., Crhánová, M.,
Patent No. 308099	Method for detection of <i>Fusobacterium mortiferum</i> by real-time PCR, a set of primers for this method of <i>F. mortiferum</i> detection	Rychlík, I., Faldynová, M., Matiašovicová, J., Čejková, D., Kubasová, T., Kollarčíková, M., Karasová, D., Crhánová, M.,
Patent No. 308093	Method for detection of <i>Megasphaera elsdenii</i> by real-time PCR, a set of primers for this method of <i>M. elsdenii</i> detection	Rychlík, I., Faldynová, M., Matiašovicová, J., Čejková, D., Kubasová, T., Kollarčíková, M., Karasová, D., Crhánová, M.,
Patent No. 308101	Probiotic strain <i>Bacteroides dorei</i> CAPM 6631 for use in improving the physiological properties of the gastrointestinal tract of poultry <i>Gallus gallus</i>	Rychlík, I., Faldynová, M., Matiašovicová, J., Čejková, D., Kubasová, T., Kollarčíková, M., Karasová, D., Crhánová, M.,
Patent No. 308176	Low-capacity system for cryopreservation of semen in liquid nitrogen vapours	Přinosilová, P., Kopecká, V., Kunetková, M., Šípek, J.

# Software

## Information on the production of R result, i.e. software entitled “PTB – Herd certification” including documentation

In 2019, R result, i.e. software entitled “PTB – Herd certification” including relevant documentation was developed after two years of implementation of a three-year project of the National Agency for Agricultural Research (under the sub-programme 2 – Research with the interest of the government) QK1820086: “Paratuberculosis – occurrence and certification software in cattle herds”. It is software, specifically web application, for both on-line recording of laboratory results of bovine paratuberculosis (PTB) testing within the upcoming certifi-

cation programme and for classification of dairy cattle herds/farms according to health status based on the processing of the above results and for conducting the certification process. So far, only registered pilot users have access to the application through the web application Access to data of the Czech-Moravian Breeders’ Association, a.s.

For the Result, appropriate documentation of 25 pages was prepared and is stored at the VRI in Brno.



## Best of the VRI

In 2019, a series of internal seminars „Best of the VRI“ was launched, in which the Departments present their work to the colleagues from the Institute. In the first seminar which took place on May 28, 2019, the **Department of Genetics and Reproduction** was introduced by Doc. Martin Anger, CSc. The presentations covered the following topics:

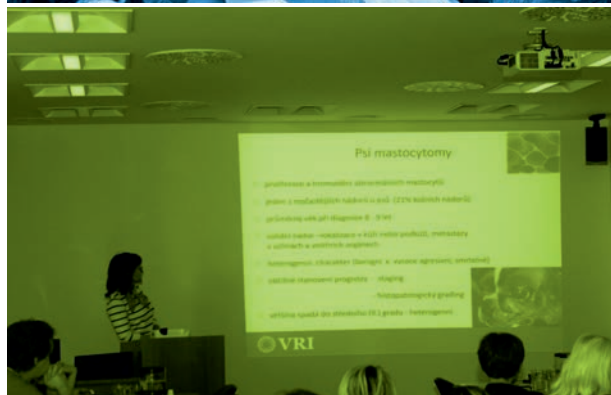
- Chromosomes matter... and why oocytes and embryos tend to forget it,
- Aneuploidy as the biggest problem of oocyte maturation and embryo development,
- Are bovine oocytes just large mouse oocytes?
- Introduction to cytogenomics,
- The use of laser microdissection and flow cytometry for the construction of hybridization probes and their application in cytogenetic studies,
- Genetics of canine mastocytoma,
- DNA fragmentation in sperm – an invisible cause of infertility,
- Chromosomal aberrations as a biomarker of DNA damage,
- From the oocyte to the progeny of the desired genotype,
- Zona pellucida proteins in relationship to bovine oocyte fertilization.

The next series of lectures held on June 24, 2019 was devoted to the activities of the Department of Chemistry and Toxicology headed by RNDr. Miroslav Machala, CSc. The presentation of the department included the following lectures:

- Objectives and scientific activities of the **Department of Chemistry and Toxicology**,
- Characterization of noxious compounds from the environment using tests with the chemically activated luciferase gene expression (CALUX),
- Cellular stress markers,
- Induction of the epithelial-mesenchymal transition of cells in a lung cancer model during exposure to organic pollutants,
- High-throughput in vitro models in neurotoxicology,
- Comparison of inhalation of nanoparticles containing Mn, Ti, Zn, Cu, Cd and Pb oxides, kinetics and deposition in target organs,
- The use of derivatization for the analysis of biologically important compounds,
- Effects of PCB153 and TCDD on sphingolipid metabolism in undi-

# INCIDENTAL INSTITUTIONAL ACTIVITIES





differentiated HepaRG cells; Function of cyclin-dependent kinase13 in embryogenesis,

- Study of lactation disturbance in CDK12 heterozygous mice.

The **Department of Virology** was presented on 24 September 2019 by Doc. Daniel Růžek, Ph.D. The presentation covered the following topics:

- Development and testing of antivirals active against the tick-borne encephalitis virus and other flaviviruses,
- Tick-borne encephalitis vaccine for veterinary use,
- Presentation of the activities of the Laboratory of Molecular Epidemiology of Viral Diseases,
- Presentation of the activities of the National Reference Laboratory (NRL) for viral diseases of fish.

On 31 October 2019, the fourth seminar took place, in which the members of the **Department of Food and Feed Safety** presented their work. The department was introduced by Mgr. Petr Králík, Ph.D., and the following lectures were presented:

- Verification of quantification standards applied in qPCR using droplet digital PCR,
- Bacteriophage-based method for rapid detection of the viable paratuberculosis agent,
- The use of xMAP technology for direct detection of parasitic agents of human food-borne infections,
- Isolation and detection of noroviruses in drinking and service water samples,
- Sensitive and selective electrochemical detection of the African swine fever virus nucleic acid for on-site analysis,
- Identification of animal species in food based on DNA analysis – PCR, qPCR, MOL-PCR.

The last seminar took place on 20 November 2019 with the presentation of activities carried out at the **Department of Bacteriology** under the leadership of Doc. MVDr. Renáta Karpíšková, Ph.D., who introduced the main activities of the department. The introductory lecture was followed by below listed presentations:

- *Listeria monocytogenes*: typing and its significance not only for end-users,
- The state-of-the-art knowledge of the occurrence of LA-MRSA,
- Horizontally spread resistance to colistin in Gram-negative bacteria,
- Interaction of *Klebsiella pneumoniae* with colonic epithelial cells.

## Small Art Gallery

In 2019, our Small Art Gallery hosted 8 exhibitions of photographs, graphic arts, wood engravings, paintings etc. Some artists organized private viewing to their exhibitions.

- ⊙ Studio Andaluz
- ⊙ Ivana Knížáková/ Petr Kunc
- ⊙ Radek Michálek
- ⊙ Jánuš Kubiček
- ⊙ Ella Watermanová
- ⊙ Petra Trávníčková
- ⊙ Yvona Bartoňková
- ⊙ Radka Zábojová

The activity of the Small Art Gallery is provided by MgA. Sylva Tománková. For the history of exhibitions and current exhibitions please visit the following website:  
[https://www.vri.cz/cz/o\\_nas/mala\\_galerie](https://www.vri.cz/cz/o_nas/mala_galerie)

## Library

In 2019, the Library continuously updated its book fund and magazine fund, purchased books and periodicals, and provided bibliographic and library services, including book lending and providing papers published in journals from its own fund, as well as from other Czech libraries and from abroad. In addition, it also fulfilled the requirements of the Interlibrary loan services for other libraries in the Czech Republic. As well as in previous years, the online access to full-texts of requested papers in databases offered by Elsevier (ScienceDirect and Scopus), Springer, Wiley and Blackwell and to the abstract and citation database Web of Science (Web of Knowledge) was made possible for the VRI researchers. In addition to professional literature, the VRI Library also provides lending of belles-lettres books within the Employees' Library.





## Annual Employees' Day

On 20 June, 2019, the Veterinary Research Institute hosted a traditional meeting for employees and their families. This year, its theme was "The Smurfs". The event included a bouncy castle and field sports for children thematically prepared under the leadership of the CTT PS staff. This year's event was supplemented with a visit by the Fire Rescue Service of the District of Brno-Židenice, and those interested could try out how to work with a high-pressure hose full of water.





## The Veterinary Committee for Food Safety

The work of the Committee was carried out in 2019 according to the approved plan of activities. The professional activity of the Committee members and external experts, invited to assist in performing the tasks, was concentrated on making studies and giving opinions focused on the issues closely related to animal health, animal welfare, zoonoses, hygiene of farms, safety of animal products and animal feeds.

Chairperson of the Committee in 2019:

RNDr. Miroslav Machala, CSc. (VRI)

Secretary of the Committee:

MVDr. Ivana Kolářková, Ph.D. (VRI)

Members:

MVDr. Pavel Alexa, CSc. (VRI, former employee)

Doc. MVDr. Jan Bardoň, Ph.D., MBA (SVU Olomouc)

Prof. MVDr. Ing. Petr Doležal, CSc. (MENDELÚ)

Prof. MVDr. Alfréd Hera, CSc., (ÚSKVBL Brno)

MVDr. Václav Jordán (Agris Medlov, former employee)

Doc. MVDr. Renáta Karpíšková, Ph.D. (VRI/VFU Brno)

Prof. MVDr. Zdeněk Pospíšil, DrSc. (VFU Brno)

MVDr. Eva Renčová (ÚSKVBL Brno)

Prof. MVDr. Vladimír Večerek, CSc. (VFU Brno)

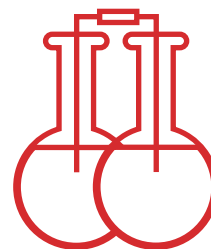
Prof. MVDr. Lenka Vorlová, Ph.D. (VFU Brno)

Professional activity of the Committee

In 2019, two regular sessions of the Committee took place.

At the initiative of the Coordination Group for Food Safety at the Ministry of Agriculture, an expert opinion entitled: Mycobacteria – The risk of human health threatening with mycobacteria in food and water was prepared (MVDr. Ivana Kolářková, Ph.D., RNDr. Miroslav Machala, CSc., Doc. MVDr. Renáta Karpíšková, Ph.D., Mgr. Iva Slaná, Ph.D).

## ADDITIONAL ACTIVITIES



# OIE Reference Laboratory for paratuberculosis and OIE Reference Laboratory for avian tuberculosis

The VRI was entrusted by the Paris-based World Organization for Animal Health (OIE) to lead two world reference laboratories: The Reference Laboratory for paratuberculosis (since 2003; one of the three in the world) and Reference Laboratory for Avian Tuberculosis (since 2005; the only laboratory in the world). Both laboratories use methods accredited according to ČSN EN ISO/IEC 17025 based on methods of direct diagnos-

tics (culture method, PCR based methods, Real Time PCR) and indirect diagnostics (serological methods) of the disease agents. At the same time, laboratory staff are also developing and improving these methods. Furthermore, both laboratories provide expertise, expert opinions, participate in the preparation of OIE documents and provide training in the detection and identification of mycobacteria.





**National Reference Laboratory (NRL) for *Escherichia coli***

**The National Reference Laboratory for *Escherichia coli* provides diagnostic and consulting services regarding *Escherichia coli* infections to breeders, veterinarians and routine laboratories, using accredited methods according to ČSN EN ISO/IEC 17025. The NRL performs:**

- ✕ Laboratory testing to detect pathogenic types of *E. coli* from various sources (animals, foods, environment)
- ✕ Investigation of the presence of virulence factors in strains isolated from cattle, pigs and poultry (e.g. detection of genes for Shiga toxins, enterotoxins, adherence factors)
- ✕ Typing of isolates (e.g. detection of O-antigen, determination of Shiga toxin subtypes)
- ✕ Determination of resistance to antimicrobials

**Regarding methodology, the National Reference Laboratory for *Escherichia coli* collaborates with the European Reference Laboratory, takes an active part in the development of analytical procedures, and organizes teaching and training events.**

- ✕ Hosts workshops and seminars for professionals
- ✕ Organizes interlaboratory comparison tests regarding the detection and typing of *E. coli*
- ✕ Maintains a collection of reference strains of pathogenic *E. coli*
- ✕ Carries out research

Head of the NRL: MVDr. Ivana Kolářková, Ph.D. Contact: Phone: +420 778706138, E-mail: kolackova@vri.cz



## METHODOLOGICAL CENTRES IN 2019

### **Methodological and Consulting Centre for Bacterial Infections of the Respiratory Tract in Animals**

**MVDr. Kateřina Nedbalcová, Ph.D.**

In 2019, the activities of the methodological and consulting centre focused on the diagnostics of bacterial respiratory and systemic infections in pigs, cattle and poultry (especially *Actinobacillus pleuropneumoniae*, *Haemophilus parasuis*, *Histophilus somni*, *Mannheimia haemolytica*, *Pasteurella multocida*, *Streptococcus suis*, avian pathogenic *Escherichia coli*). The testing was focused on the detection and identification

of the causative agents of diseases, serotyping, genotyping and other special diagnostics of isolated non-typical bacterial strains, which is not commonly performed in diagnostic laboratories. Resistance of veterinary specific pathogens to selected antimicrobials was monitored in bacterial pathogens of farm animals. During the year, the centre provided professional consultancy to breeders and staff of diagnostic laboratories with the aim of introduction of efficient treatment and preventive measures into the infected herds.

### **Methodological and Consulting Centre for Viral Diseases of Cattle**

**MVDr. Kamil Kovařík, Ph.D.**

The Centre provides consulting and advisory services focused on respiratory pathogens of cattle, analysis of the disease situation and diagnostics of the major viral pathogens of the respiratory tract – bovine respiratory syncytial virus, and pa-

rainfluenza 3 virus BVD-MD and IBR.

Based on the results, prophylactic measures in cattle herds and vaccination schedules are proposed. Other activities of the Centre are optimization of vaccination programmes, particularly in cattle herds and design of BVD eradication programmes.

### **Methodological and Consulting Centre for Clinical and Anti-infection Immunology**

**MVDr. Martin Faldyna, Ph.D.**

In 2019, the centre conducted testing of immunological parameters for the detection of immunodeficiency and autoimmune diseases in animals for agricultural industry and veterinary medicine. The most frequently performed test was the detection of IgG and IgM antibodies against *Encephalitozoon cuniculi* (a total of 254 samples) and ANA-assay for the detection of antinuclear antibodies (a total of 61 samples). There was a growing interest in differentiating between lymphoma and leukaemia using multicolour flow cytometry of blood and

lymphatic tissue samples (a total of 71 patients). In this area, cooperation with the University of Veterinary and Pharmaceutical Sciences Brno and Austrian Veterinärmedizinische Universität Wien is important in this sphere. The centre also cooperated with pharmaceutical companies based on contractual research (Czech – Moravian Biotechnology s.r.o., GeneProof, a.s., ProBionic, s.r.o., Medical Technologies CZ, a.s., TestLine Clinical Diagnostics, s.r.o., and foreign – Immunology Laboratories, Inc., SEPPIC) and based on shared research (Masaryk University – Faculty of Medicine, Mendel University in Brno, St. Anne's University Hospital Brno – International Clinical Research Center).



# Collection of Animal Pathogenic Microorganisms

(Collection of Animal Pathogenic Microorganisms)

## • Deposition of:

- New bacterial and viral isolates into the CAPM
- Cultures of microorganisms for the purposes of patent procedures in the Czech Republic
- Storage in safe deposit (cultures remain the property of the depositor)

## • Areas of advisory services

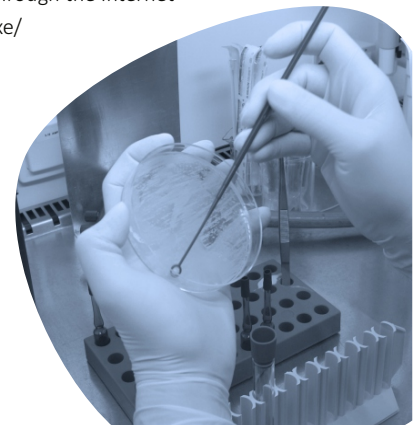
- Taxonomy of bacteria and viruses
- Growing bacterial cultures
- Isolation and growth of viruses in cell cultures and chicken embryos
- Detection of mycoplasma contamination in viral and cell cultures and its elimination
- Cryopreservation of bacteria, viruses and cell cultures
- Biosafety and biosecurity

## • Distribution of cultures of animal pathogenic bacteria and viruses

- Database of available strains is accessible through the Internet at <http://www.vurv.cz/collections/vurv.exe?search?lang=cz>

## • Lyophilisation services

Head: MVDr. Markéta Reichelová Contact: Phone: +420 5 33332131, E-mail: [reichelova@vri.cz](mailto:reichelova@vri.cz)



## Centre of Laboratories- Testing laboratory No. 1354

Accredited entity according to ČSN EN ISO/IEC 17025:2005

### 01- Laboratory for Animal Health and Food Safety

Testing for mycobacterial infections in animals; detection of the etiologic agents of paratuberculosis, avian tuberculosis and the other mycobacterial infections; detection of the presence of specific DNA sequences by PCR; detection of human noroviruses, hepatitis A and E viruses.

### 02- Laboratory for Food and Feed Adulteration, Detection Methods

Detection of vegetable DNA in foods; identification of animal species and tissue specific DNA and mRNA; marine fish species identification (Gadidae, Scombridae and Clupeidae) in foods and biological material.

### 03- Laboratory for E. coli infections

Detection of Shiga-toxicogenic *Escherichia coli* (ISO/TS 13136); typing of E. coli somatic antigen; detection of Shiga toxins, adherence factor intimin, enterohemolysin, enterotoxins and differentiation of stx2e.

### 04- Laboratory for Cytogenetics

Conventional cytogenetic testing of animals.

### 05- Laboratory for Electron Microscopy

Detection of viruses using negative staining.

### 06- Laboratory for Viral Diseases of Fish

Isolation of viral fish pathogens on cell lines; detection of viral fish pathogens by ELISA; determination of the presence of selected DNA and RNA sequences in fish viruses.

### 07- Laboratory for Spermatology and Andrology

Semen analysis; determination of the functions of male reproductive organs; biological safety testing of various materials for sperm.

### 08 – Laboratory for Viral Diseases of Cattle

Bovine viral diarrhoea (BVD) and infectious bovine rhinotracheitis (IBR) – detection of the viruses and antibodies by ELISA.

### 09 – Laboratory for Typing of Bacteria

Detection of *Listeria monocytogenes* (EN ISO 11290), *Salmonella* spp. (ČSN EN ISO 6579) and *Campylobacter* spp.; detection of *Staphylococcus aureus* by PCR; serotyping of *Listeria monocytogenes* and *Salmonella* spp.; phage typing of *Salmonella*; macro-restriction analysis of bacteria by PFGE.

## Methodological and consulting centre for salmonellosis in animals

**MVDr. František Šišák, CSc.**

In 2019, the centre provided expert and consulting activities for the following three poultry farms:

All year-round diagnostics within the control programme of Salmonella for Integra, a.s., Žabčice in hatcheries and parental flocks on laying hen farms.

All year-round diagnostics within the control programme of

Salmonella for Avigen, s.r.o., Žabčice in a flock of laying hen lines kept for breeding;

All year-round diagnostics within the control programme of Salmonella for Mach drůbež, a.s., Litomyšl in hatcheries and parental flocks of meat type poultry. The aim of the programmes for the control of Salmonella on poultry farms is to minimize the risk of spreading the monitored serovars on parental farms and their transmission to chickens in hatcheries.

## Methodological and Consulting Centre for Electron Microscopy Typing and Diagnostics of Animal Viruses

**MVDr. Pavel Kulich, Ph.D.**

The VRI Laboratory for electron microscopy is accredited for electron microscopic diagnosis of animal viruses by negative staining method.

The VRI Laboratory for electron microscopy is accredited for electron microscopic diagnosis of animal viruses by negative staining method. The laboratory provides services in the field of virological diagnostics to institutions (University of Veterinary and Pharmaceutical Sciences Brno, Institute for State Control of Veterinary Biologicals and Medicines, Public Heal-

th Institute Ostrava), diagnostic laboratories (Vedilab Plzeň, Vedia Strakonice), agribusinesses, zoological gardens, veterinarians, livestock breeders and hobby animal breeders.

In 2019, piglets, calves and poultry were tested for rotavirus and coronavirus infections.

We performed diagnostics of rhabdoviruses (spring viremia) in fish and poxviruses. We diagnosed canine, equine and bovine papillomatosis and tested autogenous vaccines. In cooperation with the pharmaceutical company Dyntec, we performed verification of cultivation of VLP particles, purification and immune detection of viral proteins and gene expression of viral proteins on baculoviruses.



## National Reference Laboratory for Viral Diseases of Fish

The NRL provides diagnostic services and confirmation testing for the detection of viral diseases of fish for the needs of the State Veterinary Administration of the Czech Republic and breeders. These are mostly morbid conditions included in the list of communicable diseases by legislation (accreditation according to EN ISO 17 025), but also other viral diseases of fish.

### Diseases included in the list:

- Epizootic haematopoietic necrosis (EHN)
- Viral haemorrhagic septicaemia (VHS)
- Infectious haematopoietic necrosis (IHN)
- Koi herpesvirus disease (KHV, CyHV-3)
- Infectious salmon anaemia (ISA)

### Diseases that are not included in the list:

- Infectious pancreatic necrosis (IPN)
- Salmonid alphavirus (SA V) disease
- Spring viraemia of carp (SVC)
- Cyprinid herpesvirus infections caused by CyHV-1 and CyHV-2
- Carp edema virus disease (CEVD)

### Other activities

- Collaboration with the EU Reference Laboratory in Copenhagen, participation in annual EU test rounds and organization of comparative testing for State Veterinary Institutes
- Consultancy services
- Research

Head of the NRL: Ing. Tomáš Veselý, CSc. Contact: Phone: +420 778476458, E-mail: vesely@vri.cz



# FUNDAMENTAL INFORMATION ABOUT THE INSTITUTE

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## Identifying data

Identification No.: 00027162

Tax Identification No.:

CZ00027162

Address:

Hudcova 296/70

621 00 Brno

Czech Republic

Phone: + 420 533 331 111

Fax: +420 541 211 229

E-mail: [vri@vri.cz](mailto:vri@vri.cz)

<http://www.vri.cz>

ID Data Mailbox: 3gsnh8r

Founder:

Ministry of Agriculture of the Czech  
Republic

Based in: Těšnov 17

117 05 Praha 1

IC: 00020478

The Veterinary Research Institute location on the map

GPS Loc: 49°23'28"N, 16°57'48"E

The Institute was founded on the basis of the Deed of Establishment Ref. No.: 22970/2006 – 11000, in accordance with § 3 of Act No. 341/2005 Coll., on public research institutions. The Veterinary Research Institute has become a public research institution with effect from 1 January, 2007

From the Deed of Establishment of the Veterinary Research Institute, as of 8 February 2018. The register of public research institutions:

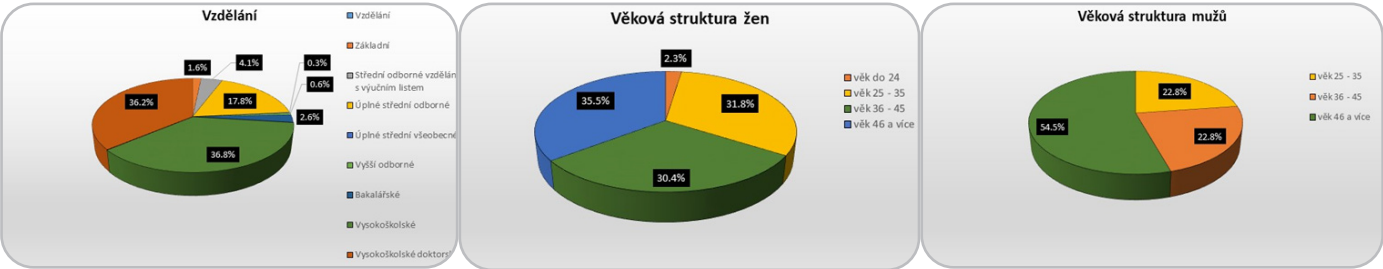
<http://rvvi.msmt.cz/detail.php?ic=00027162>

# BASIC PERSONNEL DATA

Total number of employees on 31st December, 2019	315
FTE personnel on 31st December, 2019	239.69
Disabled personnel	11

The average gross monthly salary of VRI employees in 2019 was CZK 35,124. When compared with the previous year, this represents an increase of CZK1,516 per month, which means that its year-over-year growth rate was 4.5%. The national average for 2019, published on the Czech Republic's Statistical Office website on 6th March, 2020, was CZK36,144. The average gross salary indicator is calculated as the arithmetic mean (this is not the salary of one employee) and includes

bonuses, salary compensation and overtime paid to FTE employees. Gross salaries are paid net of income tax, statutory health and social security contributions, and any other deductions agreed with individual employees. After deducting all these contributions, the employee is paid net salary. Neither compensation nor other personal costs were included in the calculation of the average gross salary, i.e. the costs paid on the basis of non-employment agreements (work agreements) and bonuses paid to statutory bodies.



## Long-term conceptual development of the research organization for 2018 – 2022

Investigator: MVDr. Martin Faldyna, Ph.D.

A project supported from the VRI's finances entitled "Long-term conceptual development of the research organization for the period of 2018 – 2022" (DKRVO) was designed and approved in 2017 and thus in 2019, the second year of the implementation took place.

Funds received by the Veterinary Research Institute in the form of institutional support were used for financing the activities in

accordance with the Institution's Deed of Establishment focused on „the development of scientific disciplines of veterinary medicine, veterinary hygiene and ecology and related biomedical, agricultural and food sciences and providing tasks arising from agricultural, environmental needs and rural development to protect animal and human health. These were mainly:

- Production of results and outputs of R&D activities, i.e. publications in impacted journals and applied results and

• Transfer of information in the form of publications in magazines intended for the agricultural and veterinary professional public or in the form of lectures and advisory activities.

The activities took place through the implementation of 16 research plans, which covered a whole range of subjects. Individual research plans focused on diseases of poultry, ruminants, pigs, fish and bees, zoonoses of viral and bacterial origin, animal diseases of bacterial origin, antimicrobial resistance of bacterial pathogens, production and preventive medicine – clinical laboratory of immunology, microbiological food and feed safety, food and feed adulteration, construction of gene maps – chromosomes, study of embryo development and disorders, optimization of in vitro embryo development, mechanisms of action of environmental contaminants and dietary substances and assessment of their risk, and pharmacology, immunotherapy and nanotoxicology. In addition, the seventeenth research plan was established in 2019. This plan was continued the activities of the National Sustainability Programme project entitled „Healthy animal as a source of healthy food“ and was part of sustainability of the AdmireVet Center, which was funded under the Operational Programme Research and Development for Innovation.

In order to implement the activity of individual research plans, it is necessary to ensure appropriate composition of individual teams, which must include both erudite experienced workers and young promising scientific staff. The importance of the Institute's role in the education of undergraduate and post-graduate students should be mentioned here.

It is also necessary to modernise and further develop the infrastructure needed for the implementation of advanced, methodologically demanding analyzes. The emphasis was also placed on obtaining funds in the form of targeted subsidies from national and international providers. Significant successes of the Institute's employees in this area are the acquisition and

subsequent implementation of projects of the Operational Programme Research, Development and Education, which financially contributed to extending the instrumental equipment.

The execution of experiments or analyzes in the form of contractual research, which is paid from private sources, is also very important. This enables better and more economical use of the free capacity of the infrastructure, but also the establishment of other relationships between the staff of the Institute and the private sector, who is a potential end-user of the results of R&D activities.

From the point of view of achieving the planned outputs of DKRVO in 2019, it can be stated that all anticipated results were achieved. Undoubtedly, a significant success is the 75 publications in peer-reviewed journals classified in their scientific fields in the Q1/Q2 category. Only quality publications are a way to an increase in the knowledge database of employees and are a prerequisite for the development of innovative applied research outputs. At the same time, it is necessary to highlight 4 granted patents and other applied results, including utility models and certified methodologies. The number of articles for the professional public and the number of organized workshops and seminars showed that the staff of the Institute was also active in the field of knowledge transfer.

Therefore, it can be stated that the institutional support funds were used efficiently and in accordance with the plan, and thanks to the investigators of individual research plans, all planned results were achieved.



# Organisational structure Veterinary Research Institute



## SUBJECT OF THE MAIN ACTIVITIES

Basic and applied research and development in veterinary medicine, veterinary hygiene and ecology and related biomedical, agricultural and food sciences:

- ⊙ Participation in international and national centres of research and development,
- ⊙ Activities of reference laboratories,
- ⊙ Operation of the Collection of Animal Pathogenic Microorganisms,
- ⊙ Scientific, professional and educational cooperation,

- ⊙ Transfer of research and development results, including new technologies, to practical users; verification and dissemination of research results within the Institute's authority,
- ⊙ Hosting and holding of professional courses, seminars, and conferences, workshops and other professional events,
- ⊙ Function of an information centre and support of publishing in the field of veterinary medicine and food safety,
- ⊙ Experimentation,
- ⊙ Agricultural activities.

## OTHER ACTIVITIES

Other activities relate to the major activities in the fields of veterinary medicine, veterinary hygiene and ecology and related biomedical, agricultural and food sciences, encompassing mainly the following:

1. Activities under the National Programme of Conservation and use of genetic resources of plants, animals and microorganisms important for nutrition and agriculture according to Act No. 148/2003 Coll., on conservation and use of genetic resources of plants and microorganisms important for nutrition and agriculture and on amending Act No. 368/1992 Coll., on administrative fees, as amended (Act on Genetic Resources of plants and microorganisms).
2. Ensuring the activity of the Veterinary Committee for Food Safety on the basis of the Resolution of the Government of the CR No. 1320 of 10 December 2001 concerning food safety strategy in the Czech Republic.

3. Expert witness activities in the fields of healthcare and agriculture; zoonotic diseases and infections of farm animals.
4. Commercial, financial, organizational, and economic consulting.
5. Holding of professional courses, training and other educational activities, including lecturing activities.
6. Providing software and consultancy in hardware and software.
7. Graphics and drawing services.
8. Publishing services.



## COMPLEMENTARY ACTIVITIES

### FREE TRADES:

1. Activities of business, finance, organization and economic consultants
2. Research and development in sciences, technology and social sciences
3. Providing software, and consultancy in hardware and software
4. Copying services
5. Graphic art services
6. Specialized retail-sale and mixed goods
7. Hosting professional courses, trainings and other education, including lecturing
8. Publishing
9. Production of food products
10. Accommodation services

## EXPERIMENTAL ACTIVITIES

Experiments with the use of live animal models are carried out on the basis of accreditation (58809/2014-MZE17214, valid until 22 March 2020). The goal is to create best conditions for experiments of the highest quality, corresponding to international standards with applying high ethical standards. Consideration is given to reducing the number of experimental animals used in approved experiments. All animal experiments are carried out according to the approved methodological procedure of the ordering party. The following animals are used in the experiments:

– cattle, sheep, goats, pigs, dogs, cats, rabbits, chickens, guinea pigs, rats, hamsters, mice and fish.

In 2019, 10 projects dealing with the following areas were submitted for approval: Basic research, translational or applied research, development, production or testing of the quality,

### NON-TRADE ACTIVITIES

1. Letting real estate, apartments and non-residential rooms. (Besides letting out, no other services are provided by the lessor than basic services ensuring proper operation of the real estate, apartments and non-residential rooms.)
2. Agricultural production, provision of works and services in agriculture, production and sale of animals and animal and vegetable products.
3. Expert witness activities in the fields of healthcare and agriculture – zoonotic diseases and infections of farm animals.

efficacy and safety of pharmaceuticals, foods, feeds and other substances or products, and in the field of higher education or doctoral study in order to obtain, maintain or improve professional knowledge. The following numbers of experimental animals were used in these experiments: 2 283 laboratory mice, 28 laboratory rats, 8 guinea pigs, 178 home rabbits, 600 chickens, 115 domestic pigs, and 200 fish. Both basic research and commercial experiments were carried out under the projects funded by AZV, the National Agency for Agricultural Research (NAZV), Czech Science Foundation (GAČR), Technology Agency of the Czech Republic (TACR) and the Operational Programme Research, Development and Education (OP RDE).

## AGRICULTURAL ACTIVITIES

Part of the VRI agricultural area is designed for farm animal evacuation in case of fire or other emergency events.

This area is inevitable and conforms to the current legislation.

## THE VRI AUTHORITIES

Director - Statutory Representative of the VRI Brno

Mgr. Jiří Kohoutek, Ph.D.

Acting Director up to 4 September 2019

Prof. MVDr. Alfred Hera, CSc.

Acting Director from 5 September 2019

## THE VRI BOARD

Member's name	Function	Organization
MVDr. Martin Faldyna, Ph.D.	Chairman	VRI Brno
MVDr. Eduard Göpfert, Ph.D.	Deputy-Chairman	VRI Brno
Mgr. Jiří Kohoutek, Ph.D.	Member	VRI Brno (up to 31 December 2019)
MVDr. Kamil Kovařík, Ph.D.	Member	VRI Brno
Mgr. Petr Králík, Ph.D.	Member	VRI Brno (up to 1 October 2019)
RNDr. Miroslav Machala, CSc.	Member	VRI Brno
PharmDr. Josef Mašek, Ph.D.	Member	VRI Brno (from 16 December 2019)
MVDr. Ján Matiašovic, Ph.D.	Member	VRI Brno
RNDr. Petra Musilová, Ph.D.	Member	VRI Brno
RNDr. Jana Prodělalová, Ph.D.	Member	VRI Brno
doc. RNDr. Daniel Růžek, Ph.D.	Member	VRI Brno
Ing. Pavlína Adam, Ph.D.	External member	Ministry of Agriculture
MVDr. Martin Anger, CSc.	External member	Masaryk University, CEITEC
prof. RNDr. Luděk Bláha, Ph.D.	External member	Masaryk University, RECETOX
MVDr. Jiří Bureš	External member	State Control of Veterinary Biologicals and Medicines, Brno
prof. MVDr. Břetislav Koudela, CSc.	External member	University of Veterinary and Pharmaceutical Sciences Brno

## MEMBERS OF THE SUPERVISORY BOARD

Member's name	Function	Organization
doc. Dr. Ing. Josef Kučera	Chairman	Czech-Moravian Breeders Association, a.s. (do 30. 4. 2019)
doc. MVDr. Milan Malena, Ph.D., p	Deputy-Chairman	(from 29 July 2019)
Mgr. Tomáš Jirů, místopředseda DR	Member	Regional Veterinary Administration of the State Veterinary Administration CR for Pardubice region
Ing. Iva Blažková, Ph.D., člen DR	Member	Ministry of Agriculture CR
Mgr. Jaroslav Hejátko, člen DR	Member	Ministry of Agriculture CR
doc. Ing. Mojmír Vacek, CSc. člen DR	Member	FARMTEC, a.s. (up to 30 April 2019)
Ing. Ondřej Sirko, člen DR	Member	Ministry of Agriculture CR
MVDr. Martin Beňka, člen DR	Member	State Veterinary Administration
Ing. Jan Vodička, člen DR	Member	Ministry of Agriculture CR (from 5 September 2019)
prof. MVDr. Alfred Hera, CSc., člen DR	Member	University of Veterinary and Pharmaceutical Sciences Brno (29 July 2019 – 4 September 2019)

## DIRECTOR'S BOARD

Member's name	Department
Doc. RNDr. Daniel Růžek, Ph.D.	Virology
Doc. MVDr. Renáta Karpíšková, Ph.D.	Bacteriology
MVDr. Martin Faldyna, Ph.D.	Immunology
Mgr. Petr Králík, Ph.D.	Food and Feed Safety
MVDr. Martin Anger, CSc.	Genetics and Reproduction
RNDr. Miroslav Machala, CSc.	Chemistry and Toxicology
PharmDr. Josef Mašek, Ph.D. in charge from 17 September 2018	Pharmacology and Immunotherapy

Member's name	Unit
Centre for Technology Transfer and Project Support	Ing. Markéta Osinová (up to 22. 10. 2019), Ing. Ildikó Csölle Putzová, Ph.D., MBA (from November 2019)
Informatics	Bc. Petr Maňásek
Economics Unit	Bc. Petra Borovcová
Experimental Animal Facility	MVDr. Eduard Göpfert, Ph.D. (up to 28 February 2019), Marie Sobotková (from 1 March 2019)
Technical Unit	Ing. Jiří Hošek
Safety Officer	Ing. Iva Stránská
Director's Office	Pavla Dvořáková
Personnel Department	Mgr. Simona Hošková
Veterinary Trade Union	Doc. RNDr. Jaroslav Turánek, DrSc. (up to 12 December 2019) MVDr. Kateřina Nedbalcová, Ph.D. (from 13 December 2019)

## THE ACTIVITIES OF THE VRI BOARD IN 2019

In 2019, five regular meetings were held by the VRI Board. The VRI Board members at their meetings dealt with the following formal topics: They approved the Annual Report of the Institute for 2018 and the Rating System for the evaluation of teams and departments. At the same time, they commissioned the Institute's management to prepare a concept of the Rating System for the evaluation of teams which will be in line with the founder's strategy and the 2017+ Methodology.

The VRI Board members approved the Institute's budget for 2019 and approved the dealing with the positive economic result after taxation. The VRI

Board members authorized the management of the Institute to continue negotiations on the financing of the national reference laboratories. The VRI Board acknowledged the information about the material Concept of cooperation of the Veterinary Research Institute with departmental research organizations and other institutions. At the VRI Board's meetings, the termination of membership in the Board was also discussed, and the wording of the election rules to the VRI Board was updated. Regarding projects, the submitted proposals for open calls of various providers were discussed.

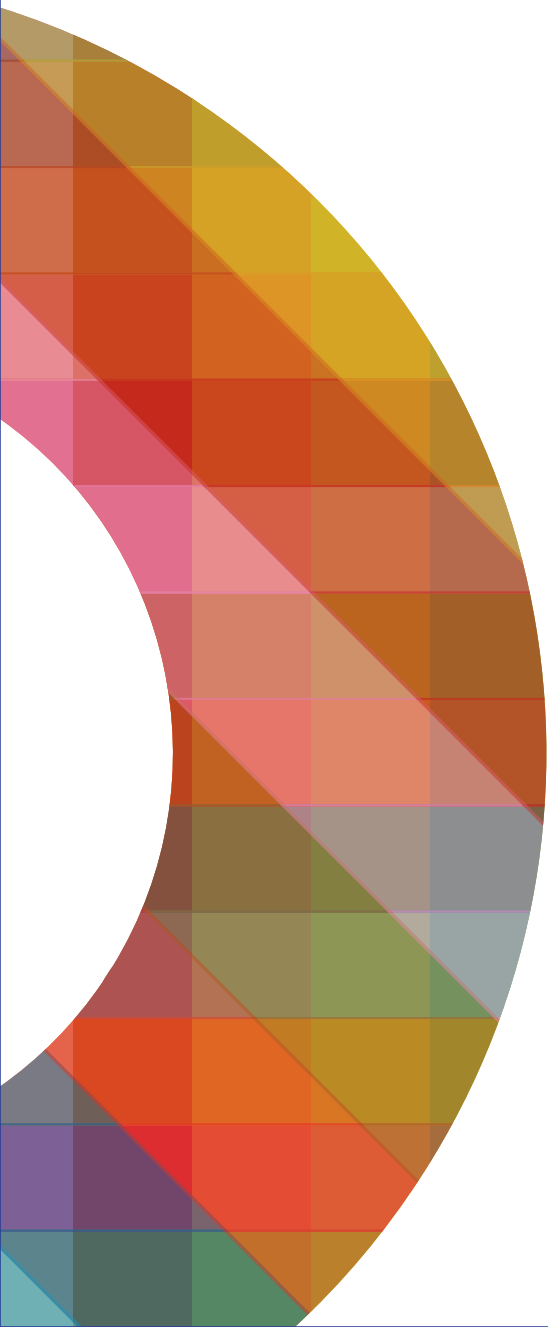












VRI YearBook 2019  
Published by Veterinary Research Institute, 2016  
Hudcova 296/70  
621 00 Brno Czech Republic  
Design: Andrea Ďurišová  
Text and photos: Team of Authors  
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