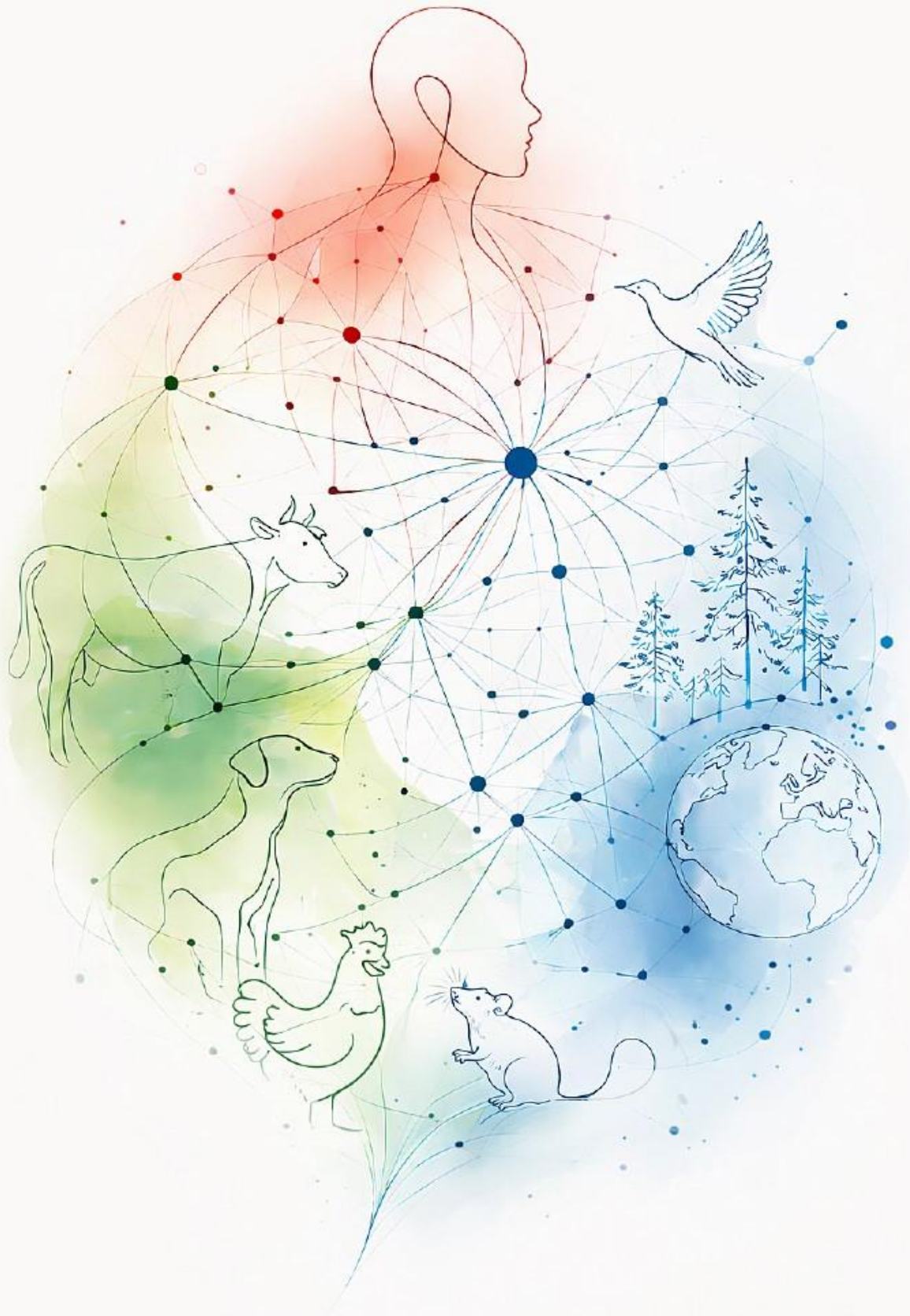




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Annual Report 2024-2025

Annual Report VPHI 2024–2025

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1. Preface

1.1. Gertraud Schübach

Head of Institute until end of 2024 /
Dean of Vetsuisse faculty since 2025



The Veterinary Public Health Institute has been founded in 2009. We are looking back on more than 15 years of research, teaching and expertise in epidemiology, animal welfare and one health.

These topics have become even more relevant than 15 years ago.

Epidemiological expertise is needed to support veterinary services in their decision making in the light of threats to animal health. In the past

two years, an unprecedented number of highly contagious animal diseases has re-emerged in the countries surrounding Switzerland. In 2025, there were outbreaks of foot and mouth disease (FMD) in Germany, Hungary and Slovakia. Luckily, these outbreaks were controlled relatively fast. A devastating outbreak of Sheep pox is going on in Greece, and recently (March 2026) the country has also been hit by FMD. In 2025, Lumpy skin disease emerged in cattle herds in France, with surveillance zones extending into Switzerland and requiring mandatory vaccination of Swiss cattle in the affected regions. A new serotype of Bluetongue, BTV 3 has spread throughout Switzerland in 2024 and 2025, which resulted in great animal health and economic damage. In addition to all these new outbreaks, there are many more recurring and continuing threats to the Swiss animal (and human) population. Avian influenza remains a great challenge, with outbreaks in bird and mammal populations, and new variants emerging every year. The outbreaks of African swine fever in the wild boar populations in Germany, Italy and Eastern Europe pose a constant threat to the Swiss wild boar and domestic pig population.

So far, Switzerland has been one of the countries which managed to limit the effects of these re-emerging diseases to a minimum. This is thanks to an effective veterinary service that places great emphasis on prevention and good cooperation with the agricultural and food sectors. The VPHI supports this by elaborating the scientific basis with research on surveillance systems, disease control programs and risk assessment. Furthermore, Swiss veterinarians receive a solid training in VPH during their studies, which makes them important partners to veterinary service and farmers in disease prevention and control.

Within the VPHI, the next generation of researchers is enthusiastic to contribute to the welfare of humans and animals through innovative research. They make the most of the opportunities offered by new technologies such as AI, whilst remaining critical of the risks they pose. This has allowed me to hand over some of the responsibilities within the institute to take on new challenges. As dean of the Vetsuisse Faculty, I will continue to work on advancing knowledge – for animals, people and their environment.

Gertraud Schübach

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1.2. Hanno Würbel

Head of Division Animal Welfare
Head of Institute since 2025



During the past two years, the VPH Institute with its two Divisions (Epidemiology and Animal Welfare) underwent some organizational changes. As my colleague Gertraud Schüpbach took up her new role as Dean of our Faculty in 2025, I replaced her as Director of the VPH Institute, while Salome Dürr replaced her as head of the Epidemiology group. Apart from that, however, things went on much in the usual way: our research ideas once more attracted substantial amounts of external funding, we actively promoted careers of early career researchers at all career stages, and our research outputs got well published and frequently cited, as you will find in the following pages.

And yet, some things are starting to change, foreshadowing my retirement in 2028. Concepts are being developed, structural commissions are being formed, and first claims to some of our premises are being made. In politics, I would be called a lame duck. In the Swiss academic system, it also means that I am no longer eligible for grants extending beyond July 2028.

Therefore, our research programme on Animal Welfare, 3Rs, and Reproducibility of Animal Research will gradually fade out over the coming two and a half years as I will be researching into the sunset of my academic career. However, it is too early to conclude, we still have exciting research projects going on, and I will save my final words for the next annual report.

In the grander scheme of things, there are also some exciting silver linings on the horizon. The 3R principles (replace, reduce, refine) are no longer seen as an abolitionist concept of fundamental animal rights activists but as a valuable strategy towards better and humane experimental technique in biomedical research. Together with roadmaps such as that by the UK government to phase out animal safety testing faster, this will likely facilitate implementation of animal-free alternatives also in other domains of animal research, where animal models of limited validity are being used. Similarly, the so-called “reproducibility crisis” is no longer seen as fake news by an anti-science movement but as a real threat to the credibility of science. It is good to see that grassroots initiatives such as the Swiss Reproducibility Network (SwissRN), which we founded during the Covid pandemic, are gaining traction. With Switzerland being the first host of the Global Federation of Reproducibility Networks (GFRN), this will likely promote implementation of open science practices more widely to foster rigorous, transparent and reproducible research.

With this positive outlook on two main aspects of our own research, I look forward to the next two years and take this opportunity to express my appreciation and gratitude to our wonderful teams of people within the VPH Institute, whose dedication and commitment is the very basis of all our successful work.

Hanno Würbel

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1.3. Salome Dürr

Head of Division Epidemiology since 2025

In 2025 I had the honor to take over the lead of the Division of Epidemiology of the VPHI, constituted by a highly motivated team of young and young at heart, dynamic people. Over the course of the year, much within the division remained consistent with previous work, reflecting the principle that there is no need to reinvent the wheel. VPHI continues to operate effectively and with strong momentum.

As Gertraud has written in her preface, the expertise of epidemiology and animals epidemics became increasingly relevant in the recent few years, and the Division of Epidemiology could make use of their discipline in a broader way than a decade ago. Highly infectious diseases such as foot-and-mouth disease, lumpy skin disease, avian influenza, and African swine fever are increasingly approaching Switzerland, posing potentially devastating risks in the event of outbreaks. At the same time, other diseases are now subject to Swiss national control efforts. For instance, vaccination campaigns against emerging strains of bluetongue have been crucial in maintaining disease control, while the national footrot control program—primarily driven by animal welfare concerns—continues to make progress. The VPHI supports the national authorities with their competencies and by research project, not only to assess the epidemiologically most promising strategies, but also in evaluating economic impacts of disease control programs.

In addition, we have continued to strengthen our international collaborations within Europe and beyond. For example, research collaborations with partners in Africa and Asia focus on dogs (particularly on rabies) and rats (notably on antimicrobial resistance). These partnerships foster valuable mutual learning across continents and are further enriched by the exchange and training of young researchers. PhD students and postdoctoral fellows from Africa and Asia have joined our institute through fellowships, while our researchers have conducted fieldwork in partner countries. Beyond their scientific value, these exchanges are deeply inspiring and help placing our work in Switzerland within a broader global context.

Alongside this continuity, 2025 also marked the development of new priorities and directions. Several interdisciplinary research projects were initiated or completed, linking veterinary epidemiology with fields such as social sciences, climate studies, population genetics, mathematical modeling, and gender studies. While such collaborations bring additional complexity and challenges, they also create opportunities for shared learning, knowledge co-creation, and innovation across disciplines.

One Health research and teaching that is grounded in inter- and transdisciplinary approaches, will remain one of the key focus area for the VPHI in the coming years. In 2025, we successfully launched new teaching initiatives, ranging from undergraduate courses for students of the Vetsuisse and the Medical Faculty to the continuing education program, the CAS One Health. We look forward to further developing and expanding these offerings.

As we look ahead, we face a future that is both exciting and challenging, shaped by increasingly complex health issues. We are confident that we as the VPHI will continue to make meaningful contributions toward addressing and mitigating these challenges.



Salome Dürr

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2. Research

2.1. Research focus of the Veterinary Public Health Institute

Veterinary public health (VPH) is a broad field combining different aspects of population medicine, epidemiology, economics, animal welfare, and food science. VPH promotes animal and human health by reducing hazards related to animals, animal products, and their environment, and by supporting positive impacts of animals on humans. During the last decade, the One Health approach has reached more attention, emphasizing the intrinsic link between human, animal and environmental health, and widening VPH towards balancing health within these three domains. Within the VPH institute, veterinary public health and One Health build research foci. Because of the broadness within the field and the relatively small size of the institute, interdisciplinary, scientific collaboration are key to conducting high level research. The institute's strategy is thus to specialize in defined research areas, and cover additional skills via strategic collaborations, e.g. with clinicians, social scientists, computer and bioinformatic scientists, physicists or molecular epidemiologists.

The institute consists of two largely independent divisions: the Division of Epidemiology and the Division of Animal Welfare. The Institute is part of the Department of Clinical Research and Veterinary Public Health (DCR-VPH) of the Vetsuisse Faculty, University of Bern. The following topics are in the focus of the institute's research:

Division Epidemiology:

1. Animal health and disease economics

Research focuses on understanding the economic and epidemiological impacts of animal diseases and zoonoses. This includes evaluating the economic viability of surveillance and control strategies, conducting cost-benefit analyses for animal health interventions, and estimating the burden of disease in animal production systems as well as from foodborne pathogens affecting humans. The goal is to provide robust scientific evidence to support decision-making and disease prioritization.

2. Data-driven animal health indices

Data are the building blocks for generating information. With the advent of new technologies, an abundance of data is being generated. While a lot of these data are being collected to manage or control processes along the production chain, there is untapped value in integrating and analyzing them for animal health purposes, namely for early disease detection or for “quantifying” health. A key focus is the integration of multiple public and private data sources to develop data-driven health indicators for systematic and resource-efficient assessment of farm animal health and welfare. These methods enable monitoring changes in health, evaluating the effectiveness of interventions to improve animal health, and can be used for risk-based farm inspections. The VPHI has several projects, at national and international level, that aim to address this current research topic.

3. One Health research related to zoonoses and AMR

Understanding the environmental-animal-human interface is an important prerequisite to handle complex health challenges, including vector borne or zoonotic diseases and

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antimicrobial resistances (AMR). Besides biological and epidemiological factors, ecological and social aspects need to be considered to best understand, prevent and control health threats for animals and humans. Within this research foci the VPH institute, we collaborate with many national and international partners with research projects conducted in Switzerland and abroad.

Division Animal Welfare

1. Center for Proper Housing of Poultry and Rabbits (ZTHZ)

The ZTHZ, a joint venture between the University of Bern and the Federal Food Safety and Veterinary Office (FSVO), focuses on all aspects concerning housing and welfare for commercial poultry and rabbit production. Projects ultimately target applications in practice but also cover basic research into underlying mechanisms of practical problems.

2. Animal welfare and 3Rs

This group studies the relationships between behaviour, cognition, and emotion in order to identify valid and reliable behavioural measures of animal welfare. Special focus is given to laboratory animals (mice, rats) and the 3Rs, with studies on how environmental conditions affect the behaviour and welfare of laboratory animals, and how this relates to the validity and reproducibility of results from animal experiments.

2.2. List of research projects

Below we present the list of research projects that have been conducted between 2024–2025, some of them are still ongoing.

2.2.1. Division Epidemiology

Aflatoxin-related health risk for milk consumers

VPHI Staff involved: Filipe Maximiano

Funding source: International Livestock Research Institute

Duration: 2019–2025

Antibiotic benchmark for cattle farms in Switzerland

VPHI Staff involved: Guy Schnidrig

Funding sources: Federal Food Safety and Veterinary Office (FSVO) / VPHI

Duration: 2023–2024

Associations between antimicrobial use, udder health and milk quality payment thresholds

VPHI Staff involved: Nicole Klopfenstein, Beat Thomann

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2025–2027

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Associations between animal health indicators, antimicrobial use, and antimicrobial resistance on Swiss dairy farms

VPHI Staff involved: Beat Thomann, Adrian Minnig

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2022–2024



Burden of disease analysis in human and animal health

VPHI Staff involved: Giulia Savioli, Beat Thomann

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2024–2027

Controlling dog-mediated rabies – scoping review of KAP surveys towards rabies and development, validation and administration of a KAP questionnaire

VPHI Staff involved: Filipe Maximiano

Funding source: University of Bern, Doc. Mobility Grant

Duration: 2022–2026



Economic and clinical impact of the Bluetongue Virus Serotype 3 outbreak in Switzerland

VPHI Staff involved: Jasmin Widmer, Beat Thomann

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2025–2028

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eRabies – towards rabies elimination in Uganda

VPHI Staff involved: Salome Dürr

Funding source: Swiss National Science Foundation (SNSF)

Duration: 2022–2026



Freshwater turtles and frogs sold for food consumption in Hong Kong Wet Markets: Implications for Public Health and species conservation

VPHI Staff involved: Ioannis Magouras

Funding source: City University and Food and Environmental Hygiene Department of Hong Kong

Duration: 2020–2026



GBADs Danish Case Study – estimation of animal health loss envelope for Danish pork production

VPHI Staff involved: Beat Thomann, Camille Doras

Funding source: The University of Liverpool

Duration: 2023–2024

NCCS: Effect of climate change on human health, animal health and food safety

VPHI staff involved: Anna-Sophia Stocker, Gertraud Schüpbach, Ioannis Magouras

Funding source: National Centre for Climate Services (NCCS)

Duration: 2023–2026

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One Health and citizen science approaches for contextualized community-led interventions tackling waterborne parasitic diseases in Chad

VPHI staff involved: Dima Farra, Salome Dürr

Funding sources: Swiss Network of International Studies (SNIS) and Specialization Board Vetsuisse

Duration: 2022–2025



Optimizing free-roaming dog population and movement estimates

VPHI Staff involved: Laura Cunha da Silva, Salome Dürr

Funding sources: VPHI, UniBE Short Travel Grants for (Post)Docs, Specialization Board Vetsuisse

Duration: 2022–2025



Paratuberculosis in Swiss dairy cattle: Disease impact, economic consequences and potential control strategies

VPHI Staff involved: Silja Griss, Beat Thomann, Luís Pedro Carmo, Gertraud Schüpbach

Funding source: Swiss National Science Foundation

Duration: 2022–2025

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Peridomestic rats as Sentinels for antimicrobial resistance and zoonotic diseases across ecological areas of Hong Kong

VPHI Staff involved: Ioannis Magouras, Luís Pedro Carmo, Catarina Fernandes

Funding source: City University of Hong Kong,

Duration: 2021–2026



Preparation for the control of African Swine Fever in wild boar through participatory modelling

VPHI Staff involved: Janine Miesch, Salome Dürr

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2023–2025



ReLait: Reducing antimicrobial use in dairy production in Fribourg

VPHI Staff involved: Anna-Sophia Stocker, Gertraud Schüpbach

Funding sources: Federal Office for Agriculture (FOAG) and Agricultural Institute Canton Fribourg

Duration: 2020–2026

Risk Mapping of West Nile Virus for Switzerland

VPHI Staff involved: Giulia Savioli, Reda Zahri, Ioannis Magouras

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2024–2026

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Smart Animal Health 2- Implementing animal health and welfare measures in dairy and swine farms

VPHI Staff involved: Beat Thomann, Adrian Minnig, Laura Cunha da Silva, Gertraud Schüpbach

Funding source: Federal Food Safety and Veterinary Office (FSVO) and Federal Office for Agriculture (FOAG)

Duration: 2022–2025

SySMob – An innovative and integrated health surveillance system in human and animal populations in rural Africa

VPHI Staff involved: Salome Dürr

Funding source: Wolfermann-Nägeli-Stiftung

Duration: 2021–2025



Tracking Tails: An interdisciplinary approach to understanding cultural and environmental factors in canine disease transmission and control

VPHI Staff involved: Ayrin-Sophie Piephoh, Silja Griss, Jolanda Paganoni Zurbrügg, Salome Dürr,

Funding source: Swiss National Science Foundation

Duration: 2025–2029



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What is a healthy dairy cow?

VPHI Staff involved: Luis Pedro Gomes do Carmo, Laura da Silva, Agathe Verhulst, Reda Zahri

Funding source: Swiss National Science Foundation (SNSF)

Duration: 2025–2026



2.2.2 Division Animal Welfare

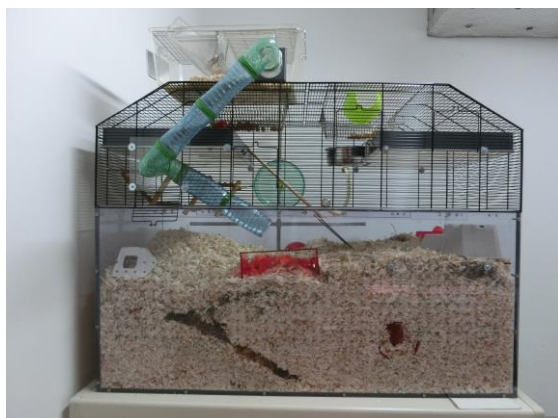
Animal Welfare and 3Rs

ENRICHMENT: Ethological evaluation of minimal requirements for the housing of mice as lab animals and pets

VPHI staff involved: Hanno Würbel, Janja Novak, Bernhard Völkl, Michelle Gygax

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2021–2024



SABV: Best practice guidance for including sex as a biological variable in animal research

VPHI staff involved: Hanno Würbel, Ivana Jaric, Janja Novak, Bernhard Völkl

Funding source: Swiss 3R Competence Centre (3RCC)

Duration: 2021–2024

PreReg: Preregistration in Animal Experimentation – A Feasibility Study

VPHI staff involved: Hanno Würbel, Cristina Priboi

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2023–2025

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iRISE: improving Reproducibility In Science

VPHI staff involved: Hanno Würbel, Bernhard Völkl

Funding source: EU Horizon Europe (WIDERA-2022-ERA-01)

Duration: 2023–2026

Welfare of laboratory mice with deep bedding as shelter compared to conventional plastic houses

VPHI staff involved: Hanno Würbel, Janja Novak

Funding source: Federal Food Safety and Veterinary Office (FSVO)

Duration: 2024–2025



InMice: How Inbreeding impacts developmental robustness and stress resilience in Mice

VPHI staff involved: Hanno Würbel, Bernhard Völkl, Janja Novak, Larisa Petra Kaija, Pui Ching Chu, Christina Streiff

Funding source: Swiss National Science Foundation (SNSF)

Duration: 2024–2028



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Pilot Study on equine recumbency

VPHI staff involved: Marie Roig-Pons

Funding source: Morris Animal Foundation

Duration: 2025



Center for proper housing: poultry and rabbits (ZTHZ)

GERONIMO: Genome and ePigenome eNabled breddIng in MOnogastrics

VPHI Staff involved: Michael Toscano, Matthew Petelle, Satar Abdelrahman

Funding source: EU Horizon Europe 2020

Duration: 2021–2024

HenTrack: Better breeding for a cage free future

VPHI Staff involved: Michael Toscano, Sabine Gebhardt, Yamenah Gómez

Funding source: Open Philanthropy, Hendrix Genetics

Duration: 2022–2028



Genetic relationships of piling

VPHI Staff involved: Michael Toscano, Alex Johny

Funding source: Lohmann Breeders GmbH

Duration: 2023–2025

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Genetic and phenotypic profiles of hens that pile

VPHI Staff involved: Alex Johny
Funding source: Australian Eggs
Duration: 2023–2025

Improved laying hen breeding selection using sensor technology and data analysis to improve welfare for cage-free systems

VPHI Staff involved: Kyle Hoeksema, Matthew Petelle, Sabine Gebhardt
Funding source: Federal Food Safety and Veterinary Office (FSVO)
Duration: 2023–2025

Identification of risk factors and causes of toe pecking in laying hens

VPHI Staff involved: Michael Toscano, Franziska Häfliger, Masha Marincek, Alex Johny
Funding source: Federal Food Safety and Veterinary Office (FSVO)
Duration: 2023–2026

Omelette: OptiMise and Extend hen Longevity to Expedite the Transition to susTainable Eggs

VPHI Staff involved: Sabine Gebhardt, Alex Johny
Funding source: EU Horizon Europe
Duration: 2023–2028

HappyHen: Development of indicators to assess positive welfare in laying hens

VPHI Staff involved: Michael Toscano
Funding source: Dutch Ministry Council
Duration: 2024–2028

Found In Translation (FIT): Across-species genomics for improving animal welfare

VPHI Staff involved: Michael Toscano, Matthew Petelle
Funding source: Dutch Research Council
Duration: 2024–2028

Digitalisation profile Raising Project: Development of a platform to allow for efficient and sustainable data-sharing

VPHI Staff involved: Michael Toscano, Sabine Gebhardt, Matthew Petelle
Funding source: University of Bern
Duration: 2025–2028

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2.3. Funding

2.3.1. Project grants division Epidemiology

Funding Agency, Applicants and Project	Funding	Amount (CHF)	Duration
Swiss National Science Foundation Dürr, S <i>Tracking Trails</i>	PhDs, Postdocs, Research	2'898'585	2025–2029
Swiss National Science Foundation Pedro Carmo, L <i>What is a healthy dairy herd?</i>	Postdoc	99'241	2025
Specialization Board Vetsuisse Bern Da Silva, L <i>Dog Home Range estimation India</i>	Research Cost	5'000	2024–2026
Specialization Board Vetsuisse Bern Widmer, J <i>Participatory Systems Mapping of Canine Rabies Diagnostics in Uganda</i>	Research Cost	5'000	2025
Federal Food Safety and Veterinary Office (FSVO) Thomann, B <i>Associations between antimicrobial use, udder health and milk quality payment thresholds</i>	Dr. Med. Vet	113'417	2025–2027
Federal Food Safety and Veterinary Office (FSVO) Thomann, B <i>Economic and clinical impact of the Bluetongue Virus Serotype 3 outbreak in Switzerland</i>	Dr. Med. Vet	146'226	2025–2028
Swiss Government Excellence Scholarship Mohanty P, Dürr S <i>Economic impact of canine rabies in humans and livestock in India</i>	Postdoc	42'000	2025–2026
Agricultural institute of the Canton of Fribourg Schüpbach, G <i>ReLait: Reducing Antimicrobial Use in dairy production in Fribourg</i>	Resident	14'380	2024
University of Berne, Vice-Rectorate Research and Innovation Vidondo, B <i>Biostatistical expertise for clinical research projects of the University of Bern</i>	Research	20'925	2024–2025
Nutztiergesundheit Schweiz (NTGS), University of Zurich Thomann, B <i>Health Monitoring SGS</i>	Research Collaboration	20'000	2025
Multidisciplinary Center for Infectious Diseases, University of Bern Magouras, I <i>Workshop on sample size calculations</i>	Workshop	1'600	2025

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Norwegian Veterinary Institute Pedro Carmo, L <i>DECIDE (Data-driven control and prioritisation of non-EU-regulated contagious animal diseases)</i>	Research Collaboration	7'277	2025
Multidisciplinary Center for Infectious Diseases, University of Bern Dürr, S (Co-Applicant) <i>Wildguard: Towards a Syndromic Approach: Evaluating General Health Surveillance Data from wild birds in Switzerland</i>	Resident	19'361	2025
Förderung Interdisziplinäre Veranstaltung (FIV) Universität Bern Dürr, S <i>One Health Teaching at the Vetsuisse and Medical Faculty of the University of Bern</i>	Resident	8'400	2025
Multidisciplinary Center for Infectious Diseases, University of Bern Griss, S (Co-Applicant) <i>Strongyloides stercoralis – prevalence and co-infection in pet dogs and people in Switzerland</i>	Postdoc	50'000	2025
Multidisciplinary Center for Infectious Diseases; Commission for Lifelong Learning of the University of Bern Dürr S, Doras C <i>Development of CAS One Health</i>	Study Management and Administration	71'000; 15'755	2024–2025

2.3.2. Project grants division Animal Welfare

Funding Agency, Applicants and Project	Funding	Amount (CHF)	Duration
Swiss National Science Foundation (SNSF) Würbel, H <i>InBreed</i>	2 PhD	820'000	2024–2027
Swiss National Science Foundation (SNSF) Völkl, B <i>CARE – A welfare label for animal research</i>	Researcher	18'500	2025
Federal Food Safety and Veterinary Office (FSVO) Würbel H <i>Labormäuse mit Tiefstreu</i>	Researcher	68'970	2024–2025
Swiss 3R Competence Centre Jaric, I <i>Refining estrous cycle through non-invasive collection procedures and deep learning classification</i>	Researcher	20'000	2024
Morris Animal Foundation Roig-Pons, M <i>Pilot Study on equine recumbency</i>	Researcher	25'040	2025
Institutional SwissRN Völkl, B <i>Symposium STRANGE</i>	Symposium	20'000	2024–2025

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ZTHZ

Interreg Gebhardt, S <i>OMELETTE</i>	Research	100'000	2024–2028
Digitalization Commission Toscano, M <i>HenData</i>	Postdoc	500'000	2025–2029
HUEVOS GUILLEN Toscano, M <i>Laying hen</i>	Travel / consulting service	5'100	2025
Lohmann Breeders Toscano, M <i>Hentrack</i>	Sponsoring meeting	1'500	2025
Insitut de Selection animale B.V. Toscano, M <i>Hentrack</i>	Sponsoring meeting	1'500	2025
European Partnership on Animal Health and Welfare Smulders, T., Norton, T., Collet, J., Toscano, M.J. (Collaborator), Veninga, G <i>HenCare</i>	Postdoc Analysis	d€ 70'000	2025–2028
Dutch Ministry Council Veninga, G., Toscano, M.J. (Collaborator) <i>HappyHen</i>	Postdoc	€ 15'000	2025–2029
Dutch Research Council Duenk, P., Toscano, M.J. (Collaborator), Bijma, P., and Derks, M.F.L <i>Across-species Genomics for Improving Animal Welfare</i>	Postdoc	€ 5'000	2025–2028

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3. Teaching

3.1. Core curriculum Vetsuisse Faculty

Scientific Working

1st Year and 5th year, Vetsuisse Faculty University of Bern

Responsible lecturers: Prof. Dr. Gertraud Schüpbach, Prof. Dr. Salome Dürr, Dr. Ioannis Magouras

Digitalization

1st Year, Vetsuisse Faculty University of Bern

Responsible lecturers: Dr. Beat Thomann

Ethology, Animal Welfare and Animal Husbandry

1st Year, Vetsuisse Faculties, University of Bern & Zurich

Responsible lecturers: Prof. Dr. Hanno Würbel, PD Dr. Bernhard Völkl, Dr. Sabine Gebhardt

Veterinary Public Health I – Research Based Learning, Epidemiology and Biostatistics

3rd Year, Vetsuisse Faculty, University of Bern

Responsible lecturers: Dr. Ioannis Magouras, Prof. Dr. Salome Dürr, Dr. Beat Thomann, Prof. Dr. Gertraud Schüpbach

Veterinary Public Health II – VPH, Animal Disease Epidemics and Applied Animal Welfare

4th Year, Vetsuisse Faculties, University of Bern & Zurich

Responsible lecturers: Dr. Beat Thomann, Prof. Dr. Gertraud Schüpbach, Dr. Ioannis Magouras, Prof. Dr. Salome Dürr, Prof. Dr. Hanno Würbel

Population Medicine and Animal health economics

2nd, 3rd and 4th year, Vetsuisse Faculty, University of Bern

Responsible lecturer: Dr. Beat Thomann, Prof. Dr. Salome Dürr

One Health

3rd year, Elective Vetsuisse Faculty and Medical Faculty, University of Bern

4th year, Elective Vetsuisse Faculty, University of Bern & Zurich

Responsible lecturer: Prof. Dr. Salome Dürr

Sustainable Development

1st year, Elective Vetsuisse Faculty, University of Bern

Responsible lecturer: Dr. Ioannis Magouras

3.2. Post graduate Education

Short course in Statistics with NCSS

The VPH Institute organizes two statistics courses per year, each lasting two days. Around 25 Master students, PhD students and postdocs, primarily from the Vetsuisse faculty are introduced to data management and data analysis with the statistical software NCSS.

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Internal Residency training sessions in Epidemiology and Biostatistics

The VPH Institute runs an active residency program at the European College for Veterinary Public Health (ECVPH), and with three to five residents being trained in parallel. Courses and workshops are organized internally and together with other residency training institutes from Europe on epidemiology, biostatistics, One Health and infectious disease modelling.

PhD courses within the Public Health Sciences (PHS) Programme

Within the frame of the PHS programs, organized by the Institute of Social and Preventive Medicine of the University of Bern, the VPH Institute leads courses on Epidemiology & Study Design, Core Methods on public health sciences, as well as on One Health. Besides it supports courses in biostatistics. The courses are taken by 10–20 PhD students from the University of Bern and are run on a yearly basis.

3.3. Professional Continuing Education

Training of official veterinarians and food inspection specialists

The VPHI teaches the topics monitoring and surveillance systems, risk assessment and epidemiological outbreak investigation within the framework of the Swiss official veterinary training and is also represented on the examination board (Gertraud Schüpbach). For food inspection specialists, VPHI offers training in risk assessment and to participants in the examination board.

Experimental Design (Statistics) for Animal Experimenters

The VPHI teaches in collaboration with the Animal Welfare Office a course on experimental design and statistics targeted at researchers who conduct or are planning to conduct experimental research.

VPHI-Webinars

Throughout the year, the VPHI webinars continued to serve as a platform for continuing education and knowledge exchange in the field of Veterinary Public Health. Held, on average, every two weeks, the series brings together researchers, professionals, and practitioners from across the globe to present and discuss pressing issues in VPH. The webinars cover a diverse range of topics, reflecting the multidisciplinary nature of VPH. These include key areas such as epidemiology, animal diseases, zoonoses, One Health, animal welfare, and biostatistics. Around 15 webinars are broadcasted each year, attracting a broad audience and encouraging an active exchange of ideas. Recordings are usually available on our website, ensuring that the content is accessible for those who could not attend the live sessions. This continued availability also supports ongoing professional development for people working in or studying VPH. The VPHI webinars have become an important resource for the Veterinary Public Health community, helping to promote continuous learning, encourage collaboration, and keep the field up to date with the latest research and practices.

Seminar series on Animal Welfare

The Division of Animal Welfare runs a bi-weekly seminar providing opportunities for Master and PhD students, postdocs, and senior researchers of the Division, as well as for external students of applied ethology and animal welfare, to present and discuss their latest research ideas and findings. The seminar regularly hosts invited guest speaker from around the world.

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CAS One Health – First cohort launched

In September 2025, the VPHI welcomed the first cohort of the new CAS One Health. The continuing education programme is designed for professionals working at the interface of ecosystem, animal and human health. It teaches participants to apply the One Health approach to real-world case studies, addressing complex health challenges through systemic and cross-sectoral strategies. Participants come from a wide range of sectors (academia, public administrations, international organisations) and disciplines (veterinary, biology, pharmaceuticals, journalism and engineering, but the vet sector represents more than 50% of the cohort). Therefore, working groups serve as living labs for transdisciplinary and cross-sectoral collaboration. One workshop has led to a scientific publication currently under peer review.



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During the Fall semester, participants completed the Basic Modules, which introduced the history and foundations of One Health alongside sociological, anthropological and ethical perspectives. Teaching contributions from partner institutions such as td-net, Eawag and WSL supported participants in developing tools for systemic problem framing and interdisciplinary collaboration.



Since January 2026, Thematic Modules have addressed key One Health challenges, including climate change and health, emerging infectious diseases at the wildlife interface, antimicrobial resistance, biosafety (with SBNet), and vector-borne diseases (with SUPSI). Participant feedback has been highly positive, particularly regarding the strong sense of community fostered through in-person teaching and collaborative work—an essential element for effective cross-sectoral collaboration. Preparations for the next cohort, starting in

September 2026, are already underway, with an information event scheduled for 19 March.

To the degree programme

Start of studies: September 2026

Registration deadline: May 31, 2026

Further information can be found at [Program description](#).

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4. Services

4.1. Services for the Federal Veterinary Authorities

In cooperation with the Federal Food Safety and Veterinary Office (FSVO) and cantonal veterinary authorities, the VPHI conducts applied research and implementation projects on topics relevant for the veterinary services. It prepares risk assessments, is involved in contingency planning, and provides scientific expertise. In 2024 and 2025, the institute conducted projects on the following topics (some examples listed):

- Estimating the size of stray cat population in Switzerland by population modelling
- Estimation of the disease burden of campylobacteriosis and listerioses in humans.
- Citizen Science for vector surveillance
- Availability of Newcastle Disease free vaccines for Swiss poultry herds
- Disinfection on manure in case of a Salmonellosis outbreak
- Animal Welfare issues with extreme breeding
- Influence of Border Disease presence for the eradication program for Bovine Viral Diarrhea
- Scoping review on welfare implications of Complete Freund's Adjuvant (CFA) on rodents in laboratories
- Survey on the use of anti-suckling devices in calves

4.2. Services for Vetsuisse Faculty

The VPH Institute offers epidemiological statistical advice for researchers of the Vetsuisse Faculty of the University of Bern. We impart know-how on the topics of study design, calculations on power and required sample size as well as statistical data analysis. Depending on research questions and data structures, our coaches explain and accompany from simple descriptive data analyses to complex multivariate and multilevel models, and thus enable the development of research proposals, projects, theses and publications. We contribute to the writing of project proposals and manuscripts and answer statistical questions from reviewers during the international peer-review process. We make sure that the analysis is performed correctly, the statistical methods are clearly described, and the results are properly presented, thus increasing the quality of the published publications.

In 2024–2025, approximately 85 research projects (including 14 master students, 41 doctoral students, 7 PhD students, 8 residents, 3 postdocs, 1 aiming habilitation and 4 additional publications) were supervised by VPHI staff. In recent years, the consultancy work has resulted in an average of 17 publications per year. Around two thirds of these were joint projects with the clinics of the Vetsuisse Faculty in Bern.

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5. Career development

5.1. Completed Dissertations & Master (M.Sc.) Work on research

5.1.1. Division Epidemiology

New ECVPH Diplomates

2024 Dima Farra, Ioannis Magouras, Julie Pont

2025 Valerie Hungerbühler, Laura da Silva

Dissertations

Adrian Minnig, Dr. med. vet.

Associations between animal health indicators, antimicrobial use, and antimicrobial resistance on Swiss dairy farms (2025)

Silja Griss, PhD

Paratuberculosis in Swiss Dairy Cattle: Disease Impact, Economic Consequences and Potential Control Strategies (2025)

Janine Miesch, Dr. med. vet.

Identifying Stakeholders and Analyzing Their Concerns About African Swine Fever Control in Wild Boar (2025)

Maria Folz, Dr. med. vet.

Literature review on existing animal identification systems and AI-Based Algorithm Development for Dog Re-identification Using Unique Image Recognition (2025, main supervision by SwissTPH)

Guy Schnidrig, PhD

Anomaly detection in the veterinary antibiotic prescription surveillance system (IS ABV) (2025)

Lordrick Alinaitwe, PhD

Advancements in the Epidemiology of Leptospira Infection in Humans and Livestock in Uganda (2024)

Damarys Montano Nieves, PhD

Scientific Evidence to Improve Avian Influenza Surveillance in Cuba with a One Health Approach (2025, main supervision by CENSA, Cuba)

Master's Theses

Adrian Herrera, med. vet.

Cost-description of different dog mass vaccination campaign strategies to reach rabies elimination in Kyegegwa District, Uganda (2024)

Samira Heydtmann, med. vet.

Comparison of data analysis from a KAP study on rabies and free-roaming dogs of a school in Assam, India (2024)

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Timm Aeschlimann, med. vet.

Direct census by village leaders: a promising method to estimate free-roaming dog populations in Uganda (2025)

Corina Baumann, med. vet.

Economic impact of dog bites and dog-bite mediated rabies in livestock in Udalguri, India (2025)

Nicole Klopfenstein, med. vet.

Burden of Disease of Campylobacteriosis (2025)

Tamara Varini, med. vet.

Consideration of Animal Welfare in Mass Rabies Vaccination Campaigns, the Case of Cameroon (2025, main supervision by SwissTPH)

Reda Zahri, bioinformatics

Assessing West Nile Virus Transmission Risk in Switzerland Using Historical Observations (2004–2023) and Climate Change Projections (2030–2039) (2025)

Catarina Fernandes, med. vet.

Ecological and Epidemiological Drivers of ESBL-Producing *E. coli* in Peridomestic Rats from Hong Kong (2025, University of Lisbon)

Raquel Dias Ferreira, med. vet.

Evaluation of potential control scenarios for paratuberculosis in Swiss dairy cattle (2025, University of Lisbon)

Jeronimo Freudenthal, med. vet.

Identification of hotspots for disease transmission in free-roaming domestic dog populations in Uganda, Indonesia, and Guatemala (2024, University of Lisbon)

5.1.2. Division Animal Welfare

Dissertations

Camille Montalcini, PhD

Examining spatial personalities of commercial laying hens and behavioural responses to keel bone fractures and management practices (2024)

Klara Grethen, PhD

From the backyard to commercial production: An investigation of social dynamics of laying hens (2024)

Catharina M.H. Broekmeulen, PhD

Effects of on-farm hatching system factors on multitasking ability and stress responsivity in laying hens (2024)

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Master's Theses

Leonie Trees, med. vet.

Pseudogerüche: Pseudo scents: An alternative for the training of detection dogs? (2025)

Marie Leekens, med. vet.

Refinement of the shelter for laboratory mice. (2024)

Master's Theses:

Eliane Carol Breitingner, med. vet.

How does the position of the hay rack affect the feeding and exploratory behavior of fattening rabbits (2025)

Nadia Clavien, med. vet.

Chicken in animal-assisted therapy – behavior and stress. (2025)

Nina Wiese, med. vet.

Description of toe pecking behavior in laying hens (2025)

Abdulsatat Abdel Rahman, applied sciences

Detrimental gas concentrations and damaging behavior in laying hens – obstacles for a sustainable egg production (2024, Bern University of Applied Sciences)

Franziska Claudia Häfliger, med. vet.

The influence of living cricket feed on the performance, behaviour, and health of laying hens (2024, co-supervision by Bern University of Applied Sciences – BFH)

Rebecca Grut, agricultural sciences

Development of an apparatus to characterize social relationships of laying hens maintained in commercial conditions (2024 Swedish University of Agricultural Sciences)

Amina Niederberger, med. vet.

Identifying behavioral differences between laying hen that toe peck (2024)

5.2. Awards and prizes for research

5.2.1. Division of Epidemiology

Giulia Savioli: Young Scientist award for Best Oral Presentation **and** Best Poster presentation at the Annual Veterinary Public Health Conference 2024, Zurich, Switzerland

Adrian Minnig: Young Scientist award for 2nd Best Oral Presentation at the DACH Epidemiology Conference 2024, Salzburg, Austria

Janine Miesch: Young Scientist award for 3rd Best Oral Presentation at the DACH Epidemiology Conference 2024, Salzburg, Austria

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5.2.2. Division Animal Welfare

Michelle Gyax: Best Oral Presentation, North American Regional Meeting of the International Society for Applied Ethology (ISAE) 2024, Guelph, Canada

Michelle Gyax: Best Oral Presentation, Annual Veterinary Public Health Conference 2025, Bern, Switzerland

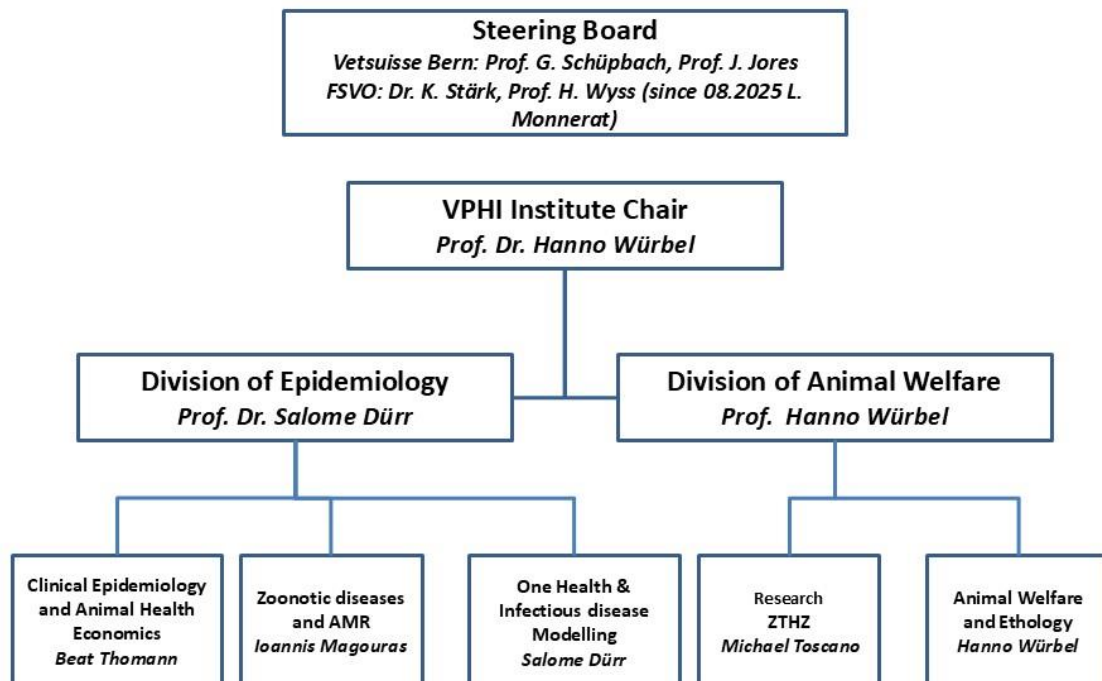
6. Publications

The list of publications can be found on our website for the Division of Epidemiology [here](#) and Division of Animal Welfare [here](#).

7. The structure of the VPH Institute

The institute is strategically guided by a steering board consisting of representatives of the two main funding organizations: 1) the Vetsuisse Faculty, University of Bern, and 2) Federal Food Safety and Veterinary Office (FSVO). The current members of the steering board are Gertraud Schüpbach (dean of the Vetsuisse Faculty), Jörg Jores (head finances at the Vetsuisse Faculty), Katharina Stärk (head of the animal health department, FSVO) and Hans Wyss / Laurent Monnerat (chief veterinary office).

Org chart 2025



As of May 2025

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7.1. Team Division of Epidemiology



From left to right:

Back line: Samuel Okech, Luís Pedro Carmo, Ioannis Magouras, Beat Thomann, Filipe Maximiano, Bernhard Völkl, Reda Zahri,

middle line: Silja Griss, Gertraud Schüpbach, Marielle Schär-Selby, Laura da Silva, Camille Doras, Giulia Savioli, Ayrin-Sophie Piephoh,

front line: Jolanda Paganoni-Zurbrügg, Susanne Lerch, Salome Dürr, Anna-Sophia Stocker

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7.2. Team Animal Welfare



From the back left: Hanno Würbel, Janja Novak, Bernhard Völkl, Michelle Gygax, Alex Johnny, Ivana Jaric, Cristina Priboi, Christina Streiff, Kyle Hoeksame, Michael Toscano, Matthew Petelle, Sabine Gebhardt

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7.3. Maps and contact address

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7.3.1. Division of Epidemiology

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<https://www.aviforum.ch/Home.aspx>

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Federal Department of Home Affairs (FDHA)

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