

# WOAH Collaborative Centre Reports Activities 2025

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## CENTRE INFORMATION

<b>*Title of WOA Collaborating Centre</b>	Diagnosis and Control of viral animal diseases in Eastern Europe, Central Asia and Transcaucasia
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<b>*Name of the writer:</b>	Anna Irza

## TOR 1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOA

Category	Title of activity	Scope
Disease control (true)	1) Infectious disease diagnosis in the Russian Federation 2) Infectious disease diagnosis in other countries	1) Official business trips of the FGBI ARRIAH experts aimed at assessing animal health situation, providing consultations on diagnosis of animal diseases, sampling of pathological material, arrangement and implementation of antiepidemic measures: Vladimir Oblast, Ivanovo Oblast, R. of Dagestan , R. of Karelia, Murmansk Oblast, Primorsky Krai, Moscow, Voronezh, Ryazan Oblast, Kostroma Oblast, Krasnodar, Bryansk, Tambov Oblast, Kirov Oblast, Republic of Mordovia, Leningrad Oblast, Novgorod Oblast, Rostov-on-Don, Kursk, Moscow Oblast, Nizhny Novgorod Oblast and so on 2) Official business trips of the FGBI ARRIAH experts to foreign countries aimed at providing consultations on diagnosis of animal diseases, arrangement and implementation of antiepidemic measures: Pakistan, Republic of Belarus, Republic of Kazakhstan, China, Kyrgyzstan, Uzbekistan, Mongolia, India, Tadjikistan
		1) 1750 rabies tests were conducted from 18 Subjects

<p>Zoonoses (true)</p>	<p>1) Rabies monitoring 2) BSE monitoring 3) COVID-19 monitoring 4) Avian influenza monitoring (atypical species)</p>	<p>of the Russian Federation (fluorescent antibody method; virus isolation in cell culture, tetracycline detection) 2) 17,049 samples of pathological material from 80 RF Subjects were tested for BSE 3) 220 tests for COVID-19 conducted using real-time RT-PCR 4) 1500 tests were conducted for HPAI</p>
<p>Avian diseases (true)</p>	<p>1) Newcastle disease monitoring 2) Avian influenza monitoring 3) Other avian diseases (viral and bacterial etiology)</p>	<p>1) 118084 samples of pathological material from 74 RF Subjects were tested for Newcastle disease (real-time RT-PCR; ELISA; virus isolation; HI test) Testing samples from foreign countries: - 2 diagnostic tests for samples from the Republic of Belarus (PCR), - 4 tests for samples from the Republic of Kazakhstan (PCR), - 151 samples from the Republic of Kazakhstan (HI method), - 100 samples from the Republic of Kazakhstan (ELISA method) 2) 129 900 samples of pathological material from 74 RF Subjects were tested for avian influenza (real-time RT-PCR; ELISA; virus isolation; HI test) Testing samples from foreign countries: - 8 diagnostic tests for samples (PCR), - 151 samples from the Republic of Kazakhstan (HI method), - 100 samples from the Republic of Kazakhstan (ELISA method). 3) 1115 samples of pathological material were tested</p>
<p>Aquatic animal diseases (true)</p>	<p>1) Diagnosis of spring viremia of carps (SVC) 2) Diagnosis of infectious hematopoietic necrosis (IHNV) 3) Diagnosis of viral hemorrhagic septicemia in salmonids 4) Diagnosis of infectious pancreatic necrosis in salmonids 5) Diagnosis of infectious anemia in salmonids 6) Diagnosis of epizootic hematopoietic necrosis 7) Diagnosis of alphavirus disease in salmonids</p>	<p>1) 424 diagnostic tests were performed on samples from 50 RF Subjects (virus isolation in cell culture; ELISA; PCR) 2) 661 diagnostic tests were performed on samples from 26 RF Subjects (virus isolation in cell culture; ELISA; PCR) 3) 635 diagnostic tests were performed on samples from 25 RF Subjects (virus isolation in cell culture; ELISA; PCR) 4) 651 diagnostic tests were performed on samples from 26 RF Subjects (virus isolation in cell culture; ELISA; PCR) 5) 494 PCR diagnostic tests were performed on samples from 23 RF Subjects 6) 298 diagnostic tests were performed on samples from 18 RF Subjects (virus isolation in cell culture; PCR) 7) 119 diagnostic tests were performed on samples from 11 RF Subjects (virus isolation in cell culture; PCR)</p>
<p>Diagnosis, biotechnology and laboratory (true)</p>	<p>1) Diagnosis of bluetongue 2) Diagnosis of CSF 3) Diagnosis of ASF 4) Diagnosis of Schmallenberg disease 5) Diagnosis of LSD 6) Diagnosis of FMD 7) Diagnosis of PPR 8) Diagnosis of Sheep pox 9) Diagnosis of CBPP 10) Diagnosis of CWD</p>	<p>1) 5,102 tests were conducted from 15 RF Subjects 2) 9,568 tests were performed on samples from 62 RF Subjects (ELISA; PCR) 3) 58,986 diagnostic tests were performed on samples from 74 RF Subjects (ELISA; PCR) 4) 11 PCR tests were performed on samples from 1 RF Subject. 5) 3,729 diagnostic tests were performed on samples from 34 RF Subjects (ELISA; PCR) 6) 387,038 samples from 85 RF Subjects were tested: 239229 -LPB ELISA 9,009 Virus neutralization test 126,974 Indirect ELISA (ELISA-NSP) 482 Vaccine matching in VNT 98 Virus isolation in cell culture 98 Indirect double sandwich ELISA 98 CFT 5,574 Real-time RT-PCR, 3D gene 5,574 Real-time RT-PCR, 5'HTO gene 276 tests were conducted on samples from foreign countries (Pakistan): 130 Liquid phase blocking indirect ELISA (LPB ELISA) 130 tests/Virus neutralization test 3 samples/Virus isolation in cell culture 3 samples/Indirect double sandwich ELISA 3 samples/Real-time RT-PCR, 3D gene 3 samples/Real-time RT-PCR, 5'HTO gene 3 samples/RT-PCR, VP1 gene 3 samples/VP1 gene sequencing 7) 18,060 tests</p>

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		were performed on samples from 85 RF Subjects. (ELISA; PCR; neutralization test) 8) 290 tests were performed on samples from 14 RF Subjects (ELISA; PCR) 9) 19,214 tests were performed on samples from 85 RF Subjects (ELISA; PCR) 10) 700 tests for CWD were performed on pathological samples from 66 RF Subjects.
Feed safety (true)	Food safety monitoring	28,857 tests were performed in 24 RF Subjects. Test methods: physicochemical, microbiological, radiological, ELISA, real-time PCR.

## TOR 3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated

Proposal title	Scope/Content	Applicable Area
Methodical guidelines for detection of AIV Subtype H6 RNA using real-time RT-PCR	This technique enables rapid detection and initial subtyping of AIV H6 using real-time PCR.	Laboratory Expertise Health Management Animal Production
Methodical guidelines for sampling biological/pathological materials from non-avian influenza host species, poultry products, and environmental surfaces in production settings for avian influenza laboratory testing	This technique enables correct sample collection for influenza testing, ensuring reliable diagnostic outcomes.	Laboratory Expertise Health Management Animal Production
FGBI "ARRIAH" STANDARD: "Real-Time Reverse Transcription Polymerase Chain Reaction Test Kit for Detection of Avian Influenza Virus Subtype H5 RNA (AI H5 real-time RT-PCR)"	The diagnostic kit is suitable for large-scale commercial production and distribution, is designed for detection of specific AIV H5 RNA in biological and environmental samples.	Laboratory Expertise Health Management Animal Production
FGBI "ARRIAH" STANDARD: "Real-Time Reverse Transcription Polymerase Chain Reaction Test Kit for Detection of Avian Influenza Virus Subtype H7 RNA (AI H7 real-time RT-PCR)"	The diagnostic kit is suitable for large-scale commercial production and distribution, is designed for detection of specific AIV H7 RNA in biological and environmental samples.	Laboratory Expertise Health Management Animal Production
Carnivac-Flu – Inactivated emulsion vaccine against H5 influenza in carnivorous animals	Prevention of Influenza A Subtype H5 in Fur-Bearing Animals, Dogs, and Cats	Laboratory Expertise Health Management Animal Production
Methodical guidelines for detection of African horse sickness virus RNA using real-time polymerase chain reaction	This technique was developed to test livestock imported into the Russian Federation.	Laboratory Expertise Health Management Animal Production
Methodical guidelines for detection of Seneca valley virus antibodies using microneutralization assay	Differential diagnosis of vesicular diseases in animals	Laboratory Expertise Health Management Animal Production
2025 wildlife monitoring program for FMD		

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and PPR in the following territories: - Astrakhan and Volgograd Oblasts of the Russian Federation; - Saratov Oblast; - Zabaikalsky Krai	FMD, PPR and Contagious bovine pleuropneumonia surveillance including wild animals	Laboratory Expertise Health Management Animal Production
Methodical guidelines for detection of <i>Aphanomyces astaci</i> DNA (Crayfish plague pathogen) using real-time polymerase chain reaction.	Crayfish plague diagnostics	Laboratory Expertise Health Management Animal Production
Methodical guidelines for detection of <i>Aliivibrio salmonicida</i> DNA in Salmonids using real-time polymerase chain reaction	Coldwater vibriosis diagnostics for salmonid fish	

3. In exercising your activities, have you identified any regulatory research needs\* relevant for WOA?H?

No

4. Did your Collaborating Centre maintain a network with other WOA?H Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOA?H CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
IAEA Zoonotic Disease Integrated Action Initiative (ZODIAC)	Austria	África Asia y el Pacífico Europa Oriente Medio	Strengthen the preparedness and capacity of Member States to rapidly identify and respond to zoonotic outbreaks in a timely manner.
FMD WRL	Pirbright Institute, UK	África América Asia y el Pacífico Europa Oriente Medio	Molecular epidemiology of FMD outbreaks Exchange of FMD virus genomic sequences, in accordance with the Memorandum of Understanding on the WOA?H/FAO FMD Reference Laboratory network
WOA?H PPR reference laboratories network	France	Europa	Collaboration with the network of PPR reference laboratories.
Onderstepoort Veterinary Institute (Pretoria, South Africa)	Republic of South Africa	África	Coordination of joint research projects
OFFLU Secretariat	-	África América Asia y el Pacífico Europa Oriente Medio	Submission of genome sequences of avian influenza H5/H7/H9 viruses to the WOA?H/FAO/WHO international network every 6 months

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Department of Veterinary Service of the Ministry of Agriculture of the People's Republic of China, Department of Veterinary and Animal Breeding of the Executive Agency of the Government of Mongolia	China Mongolia	Oriente Medio	Interaction in case of emergency of dangerous diseases, such as, FMD. Agreement on Cross-Border Trade and Reduction of the Risk of Spread of Transboundary Animal Diseases between China, Mongolia and Russia
European Foot-and-Mouth Disease Control Commission (EU FMD)	Rome, Italy	Europa	Exchange of information on disease outbreaks, animal vaccination. Cooperation on prevention and control of FMD and other transboundary animal diseases between the countries of Transcaucasia, Russia and Iran (GF-TADs)
Venice Institute of Experimental Zoophylaxis (IZSve)	Padua, Italy	Europa	Repeated exchange of isolates of highly pathogenic avian influenza and Newcastle disease viruses detected on poultry farms during primary and epidemiologically significant outbreaks for comparative scientific research
Animal and Plant Health Agency (APHA)	Weybridge, England	Europa	Repeated exchange of isolates of highly pathogenic avian influenza and Newcastle disease viruses detected on poultry farms during primary and epidemiologically significant outbreaks for comparative scientific research
National Institute of Animal Health, National Agriculture and Food Research Organization (NIAH/NARO)	Japan	Asia y el Pacífico	Repeated exchange of isolates of highly pathogenic avian influenza and Newcastle disease viruses detected on poultry farms during primary and epidemiologically significant outbreaks for comparative research studies
General Laboratory for Zoonotic Infections Research, College of Veterinary Medicine, Jilin University	Jilin University, China	Asia y el Pacífico	Conducting joint studies of isolates of Newcastle disease virus and avian paramyxoviruses of other serotypes
WOAH Reference Laboratories for ASF	-	África América Asia y el Pacífico Europa Oriente Medio	Discussion and harmonization of approaches to conducting comparison and diagnostic tests

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Pan American Center for Foot-and-Mouth Disease (PANAFTOSA)	Brazil	América	Improvement of laboratory diagnosis of animal infectious diseases. International interlaboratory comparisons for the diagnosis of foot-and-mouth disease and vesicular stomatitis.
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## TOR 4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAHO Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of WOAHO CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Joint measures of the CIS member states to prevent and control FMD, rabies, highly pathogenic avian influenza and Newcastle disease	Armenia Belarus Kazakhstan Kyrgyzstan Tadjikistan Uzbekistan	Asia and Pacific Europe	Joint measures of the CIS member states to prevent and control FMD, rabies, highly pathogenic avian influenza and Newcastle disease

## TOR 6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAHO?

No

## TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

No

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAHO, to personnel from WOAHO Members?

Yes

a) Technical visit : 0

b) Seminars : 26

c) Hands-on training courses: 16

d) Internships (>1 month) : 0

Type of technical training provided (a, b, c or d)	Content	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
B	Lumpy skin disease: diagnosis, prevention and control measures under current conditions	Russia	4
B	Contagious bovine pleuropneumonia and peste des petits ruminants: epidemiology, clinical signs and postmortem lesions, diagnosis, prevention and control measures under current conditions	Russia	2

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B	Aquatic animal diseases: current issues of epidemiology and diagnosis.	Russia	8
B	FMD epizootic situation in the world. Diagnosis and prevention of FMD	Russia	12
C	Laboratory diagnosis of animal rabies (using fluorescent antibody test and mouse inoculation test (bioassay)).	Republic of Belarus	2
C	Methods for microbiological control of food products. Validation and verification of microbiological test methods	Republic of Kyrgyzstan	1
C	Physico-chemical test methods for meat and meat products	Republic of Belarus	1
C	Physico-chemical test methods for milk and dairy products	Republic of Belarus	4
C	Microbiological tests of food products	Republic of Belarus	3
C	Microbiological tests of milk and dairy products	Republic of Belarus	5

## TOR 8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOA?H?

Yes

National/International	Title of event	Co-organiser	Date	Location	No. Participants
Internationally	93rd WOA General Session of the World Assembly of Delegates	WOAH	2025-05-24	Paris, France	1
Internationally	20th Annual Meeting of the FAO-WOAH Foot-and-Mouth Disease Reference Laboratory Network	FAO/WOAH	2025-10-23	Istanbul, Türkiye (videoconference)	1
Internationally	Seminar on procedures for official recognition of the WOA status, approval of official control programs, and maintenance of foot-and-mouth disease and peste des	WOAH	2025-02-27	Issyk-Kul, Kyrgyzstan	1

	petits ruminants (PPR) disease-free status				
Internationally	47th Regular Meeting of the Intergovernmental Council for Veterinary Cooperation of the CIS Member States	CIS	2025-09-22	Dushanbe, Tadjikistan	2
Internationally	Regional meeting on foot-and-mouth disease and peste des petits ruminants control.	GF-TADs FAO WOAHO	2025-11-13	Dushanbe, Tadjikistan	1
Internationally	WOAH Seminar on operationalisation of the One Health Joint Plan of Action in the Veterinary Services of the European region.	WOAH	2025-11-18	Athens, Greece	1
Internationally	24th Meeting of the GF-TADs Standing Group of Experts on African Swine Fever for Europe	GF-TADs	2025-04-02	Sarajevo, Bosnia and Herzegovina	1
Internationally	Meeting of the World Organisation for Animal Health (WOAH) Regional Group for Europe.	WOAH	2025-09-22	Serbia	1
Internationally	International Forum on Zoning and Risk Management	WOAH	2025-12-08	Paris, France	1
Internationally	Meeting of the WOAHO Governance Review Committee (GRC1)	WOAH	2025-01-28	Video conferences	1
Internationally	"Peste des Petits Ruminants in Wildlife," organized for members of the global reference network of national laboratories for Peste des Petits Ruminants (PPR)	FAO	2025-06-02	Webinar	1
Internationally	Regional WOAHO Seminar on "Harmonization of Veterinary Education"	WOAH	2025-10-13	Republic of Kazakhstan, Alma Ata	1
Internationally	Practical workshop on PPR control	WOAH	2025-04-01	The Mongolian People's Republic, Ulaanbaatar	1
Internationally	4th Online (Zoom) Meeting of the WOAHO avian disease network in East Asia	WOAH	2025-05-19	WOAH Regional Representative for Asia and the Pacific, Tokyo, Japan	1

## TOR 9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAHO that may be useful to Members of WOAHO

a) Articles published in peer-reviewed journals:

60

1. A Mathematical Model Based on the Double Differential of Crossing Point Data to Determine FMDV Infectivity Titers in Production Seed Lots / Doronin M.I., Kara D.I.,

- Borisov A.V. [et al.] // *Actual Questions of Veterinary Biology*. 2025. № 2 (66). pp. 31-40.
2. A Method for the Concentrated Production of Feline Panleukopenia Virus/ Kiselev A.M., Galkina T.S., Chernyshev R.S., [et al.] // *Veterinary Medicine, Zootechnics and Biotechnology*. 2025. № 6. pp. 56-65.
  3. An Effective Way to Eradicate Foot-and-Mouth Disease Outbreaks / Mikhailishin D.V., Yelkina Yu.S., Gochmuradov Y.M. [et al.] // *Veterinary Medicine*. 2025. № 1. pp. 10-14.
  4. An Evaluation of the Efficacy of Four Currently Used Sheep Pox Vaccines Against a Contemporary Virulent Strain / Shumilova, I.; Abed Alhussen, M.; Krotova [et al.] // *Vaccines* 2025, 13, 1243.
  5. Analysis of RASFF Notifications for Mycotoxins in 2020–2022 / Ibragimova S.S., Pruntova O.V., Shadrova N.B. [et al.] // *Veterinary Science Today*. 2025. Vol. 14. No. 2. pp. 201-209.
  6. Animal Rabies in Kazakhstan: Stable Endemicity, Surveillance Pitfalls, and Priority Actions / S.K. Abdrakhmanov, A.Z. Abenova, A.A. Mukhanbetkaliyeva [et al.] // *Pathogens*, 2025, 14(11), art. no. 1079.
  7. Animal rabies in the Nizhny Novgorod region of Russia (2012–2024): Descriptive and predictive epidemiological analysis / O.I. Zakharova, E.A. Liskova, I.V. Razheva [et al.] // *Preventive Veterinary Medicine*. – 2025. – Vol. 240:106531.
  8. Antimicrobial Resistance of *Salmonella* spp. Detected in Animal Products in 2022–2024 Akulich O.A., Shadrova N.B., Denisova G.S. *Veterinary Science Today*. 2025;14(3):310-318.
  9. Antiviral Activity of Ivermectin against Bovine Viral Diarrhea Virus in vitro / Kononova S.V., Trofimova E.A., Nesterov A.A. [et al.] // *Actual Questions of Veterinary Biology*. 2025. № 3 (67). pp. 39-45.
  10. Assessing the Pathogenic Potential and Spillover Risk of H5 Avian Influenza Viruses from Russia, 2018–2022 / Zinyakov N.G., Grekhneva A.D., Andriasov A.V. [et al.] // *Journal of Microbiology, Epidemiology and Immunobiology*. 2025. Vol. 102. No. 3. pp. 350-361.
  11. Comparative Analysis of Adjuvant Effects on the Immunobiological Properties of Experimental Swine Erysipelas and Parvovirus Vaccines/ Balakhnin N.D., Frolotseva A.A., Baborenko E.P., [et al.] // *Veterinary Medicine, Zootechnics and Biotechnology*. 2025. Vol. 2. No. 10. pp. 61-70.
  12. Construction of Newcastle Disease Virus LaSota strain-Based Internal Sample for Rabies Diagnosis with RT-PCR S.A. Chupin. *Veterinary Science Today*. 2025;14(3):249-254.
  13. Correlation of Pathogen-Specific Etiology with the Spectrum of Inflammatory Responses in Bovine Mastitis / Andreeva A.A., Evgrafova V.A., Pruntova O.V., [et al.] // *Actual Questions of Veterinary Biology*. 2025. No. 3 (67). pp. 19-23.
  14. Creating a Laboratory Model of *Mycoplasma gallisepticum* and *Mycoplasma synoviae* Associated Infection/ Kozlov D.A., Volkov M.S., Chupina O.A., [et al.] // *Veterinary Science Today*. 2025. Vol. 14. No. 1. pp. 55-61.
  15. Culture Inactivated Emulsion Vaccine against SAT 2/VIIIIB-12 Genotype Foot-And-Mouth Disease for Early Protection of Cattle / Doronin M.I., Kara D.I., Borisov A.V. [et al.] // *Actual Questions of Veterinary Biology*. 2025. № 4 (68). pp. 21-29.
  16. Detection of *Listeria monocytogenes* while Testing Food Raw Materials and Products of Animal Origin for Microbiological Contamination N. Logatskaya, O. V. Pruntova, T. V. Zhibanova // *Veterinary Science Today*. – 2025. – Vol. 14, No. 4. – pp. 418-425.
  17. Development and Application of ELISA Test System for Assessing Humoral Immunity against FMDV SAT2/XIV Topotype Lugovskaya N.N., Yelkina Yu.S., Shevchenko M.A., [et al.] *Veterinary Science Today*. 2025;14(3):283-293.
  18. Development of Test-System for Detection of H5 and H7 Avian Influenza Virus RNA by Multiplex Real-Time RT-PCR Assay using Internal Control / Grekhneva A.D., Zinyakov N.G., Andriasov A.V. [et al.] // *Veterinary Science Today*. 2025. Vol. 14. No. 1. pp. 40-46.
  19. Effectiveness of Vaccination Against Bovine Mastitis: A Case Study from a Cattle Farm in the Ryazan Oblast / Evgrafova V.A., Andreeva A.A., Kurchevsky V.A. [et al.] // *Agrarian Science*. - 2025. - No. 7. - pp. 29-38.
  20. Effects of Sewage Silt Sludge on the Yield and Quality of Lawn Turfgrass Mixtures / Titova V.I., Belousova E.G., Rybin R.N. [et al.] // *Plodorodie*. 2025. № 1 (142). pp. 59-63.
  21. Effects of the Defoamer Sofexil-1520A on the Proliferation of BHK-21/SUSP/ARRIAH Cells and the Replication of Foot-and-Mouth Disease Virus / Klyukina N.D., Doronin M.I., Guseva M.N. [et al.] // *Actual Questions of Veterinary Biology*. 2025. № 1 (65). pp. 40-48.
  22. Emergence and characterization of historically extinct virulent genotype IV Newcastle disease virus in wild and domestic birds: genetic insights, pathogenicity, and vaccine efficacy / Weiwen Yan, Xinxin Liu, Shanshan Jiang [et al.] // *Journal of Virology*, 2025, Nov v. 13.
  23. Environmental drivers influencing the relative abundance of wild boar population in Russia. / Olga I. Zakharova, Andrey A. Blokhin, Elena A. Liskova [et al.] // This is a PREPRINT; it has not been peer reviewed by a journal.
  24. Environmental drivers of rabies in the Volga region of Russia: application of the maxent model / O. Zakharova, F. Korennoy, E. Liskova [et al.] // *Frontiers in Veterinary Science*, 2025, 12, art. no. 1650834.
  25. Environmental Suitability of Kazakhstan to Highly Pathogenic Avian Influenza Using Data on Eurasian Outbreaks, 2020–2024. Abenova AZ, Mukhanbetkaliyev YY, Kadyrov AS [et al.] *Viruses*. 2025; 17(4):574.
  26. Evaluation of Antibody-Mediated Immunity Induced by Saponin-Adjuvanted, Inactivated Emulsion Vaccines / Doronin M.I., Borisov A.V., Shishkova A.A. // *Actual Questions of Veterinary Biology*. 2025. № 1 (65). pp. 31-39.
  27. Evaluation of CARNICAN - 4 Vaccines Immunogenicity for Dog Immunization / Komarova A. A., Galkina T. S., Klimova A. A., [et al.] // *Veterinarny Pharmacologicheskiy Vestnik*. 2025. № 2 (31). pp. 125-135.
  28. Evaluation of Different Machine Learning Approaches to Predict Antigenic Distance Among Newcastle Disease Virus (NDV) / Strains. Franzo, G., Fusaro, A., Snoeck, C. J., [et al.] // *Viruses*. 2025; 17(4):567.
  29. Evolution of Porcine Virus Isolation: Guidelines for Practical Laboratory Application / Moiseenko, D., Chernyshev, R., Kamalova, N. // *Microorganisms*, 2025, 13(12)
  30. Extension of Scope of Susceptible Mammalian Species as Avian Influenza Global Situation Developed in 2023–2024 / Zhiltsova M.V., Akimova T.P., Mitrofanova M.N. [et al.] // *Veterinary Science Today*. 2025. Vol. 14. No. 1. pp. 6-13.
  31. Feline Chlamydiosis (Review) / I. S. Tsyganov, S. V. Shcherbinin, T. S. Galkina [et al.] // *Veterinary Medicine today*. – 2025. – Vol. 14, No. 4. – pp. 326-336.
  32. First detection of parainfluenza virus 5 in sika deer: Evidence for crossspecies transmission and zoonotic potential/Bing Gao, Hongjin Li a, Weiwen Yan, [et al.] // *Animals and Zoonoses*, 2025.
  33. FMD under Control: Enhanced FMD Surveillance in the Russian Federation Results in the WOAHO Official Recognition of Zone Western Siberia - Urals as FMD-Free /

- A.A. Shmelev, V. V. Nikiforov, S. N. Fomina [et al.] // *Veterinary Science Today*. – 2025. – Vol. 14, No. 4. – pp. 337-343.
34. Genetic variations of African swine fever virus MGF 505-9R/10R and I73R/1329L intergenic regions: their role in differentiation between recombinant variant and genotype I and II isolates / R. Chernyshev, E. Morozova, N. Zinyakov // *Archives of Virology*. – 2025. – Vol. 170. – Cm. 220.
35. Immunogenic Activity of ARRIAH-AviFluVac Vaccine against High-Pathogenicity H5N1 Avian Influenza Virus Relevant for Russia in 2023 / Moroz N.V., Dolgov D.L., Frolov S.V. [et al.] // *Veterinary Science Today*. 2025. Vol. 14. No. 1. pp. 47-54.
36. Implementation of the Joint Action Plan by the CIS Members to Prevent and Control Rabies Chvala I.A., Chernyshova E.V., Belyakova T.M. [et al.] *Veterinary Science Today*. 2025;14(3):218-222.
37. Inactivation of Canine Adenovirus / Klimova A.A., Galkina T.S. // *Veterinarny Vrach*. 2025. № 2. pp. 77-84.
38. Investigating the Infectious Process in Chickens Infected with Newcastle Disease Virus Genotype VII via Different Routes / M.A. Vershinina, N. V. Moroz, S. V. Frolov [et al.] // *Veterinary Science Today*. – Vol. 14, No. 4. – pp. 401-409.
39. Isolation of feline panleukopenia Virus in Cell Culture / Kiselev A.M., Tsyganov I.S., Eliseeva S.M. [et al.] // *Veterinary Medicine*. 2025. № 3. pp. 26-31.
40. Isolation of feline panleukopenia virus in cell culture. / Kiselyov, A. M., Tsyganov, I. S., Eliseeva, S. M., [et al.] // *Veterinary Medicine*. 2025; 3
41. Phylogenetic Analysis of Rabies Virus Isolates Recovered from Animals in Volgograd Oblast Chupin S.A., Chernyshova E.V., Chernyshev R.S. [et al.] *Veterinary Science Today* 2025;14(3):241-248.
42. Preparation of SARS-CoV-2 Recombinant Nucleocapsid Protein/ Yakovleva A.S., Kanchina A.V., Timina A.M. // *Veterinary Science Today*. 2025. Vol. 14. No. 1. pp. 69-75.
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44. Recombinant Antigens in Serological Diagnostics of Transboundary and Emerging Bovine Infections Tenitilov, N. A. Yarygina, A. V. Sprygin // *Veterinary Science Today*. – 2025. – Vol. 14, No. 4. – pp. 372-382.
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b) International conferences:

24

1. 3rd International Forum "Aquaculture", Moscow, 29.10.2025
2. 76th International Scientific and Practical Conference "Development of Science and Practice in the Context of Global Challenges", Kostroma Oblast, Karavaevo s., 05.02-06.02.2025
3. Conference on Avian Diseases with the Participation of Poultry Farm Managers and Veterinary Specialists, Republic of Kazakhstan, Alma Ata, 13.10-18.10.2025
4. International Forum on Veterinary Safety, Moscow, 28.11.2025
5. International Poultry Conference "Prospects for Development and a 60-Year Industry Review", Moscow, 28.05.2025
6. International Scientific and Practical Conference "Current Issues in the Treatment and Prevention of Diseases in Young Animals", Vitebsk, Republic of Belarus, 03.11-

- 7.11.2025
7. International Scientific and Practical Conference "Current Trends in the Development of Veterinary Science and Practice", Republic of Belarus, Minsk, 22.10-25.10.2025
  8. International Scientific and Practical Conference "Genetic and Biotechnological Aspects of Animal Resistance to Biopathogens", Moscow, 07.11.2025
  9. International Scientific and Practical Conference "Innovative and Modern Methods for the Diagnosis, Prevention, and Treatment of Infectious Diseases in Commercial Poultry and Livestock Farming", Republic of Tajikistan, Dushanbe, 09.06-11.06.2025
  10. International Scientific and Practical Conference "Biological Safety in the Context of Global Threats: Scientific and Technological Approaches to Counteraction", Astana, 2025.
  11. International Scientific and Practical Conference Dedicated to the 120th Anniversary of the Kazakh Scientific Research Veterinary Institute, Republic of Kazakhstan, Alma Ata, 14.05-17.05.2025
  12. International Scientific and Practical Conference Dedicated to the 65th Anniversary of the FSBSI "FCTRB-VNIIVI": Innovative Solutions to Current Issues of Biological, Toxicological, and Radiation Safety for the Agro-Industrial Sector, Kazan, 2025.
  13. International Scientific and Practical Conference on Molecular Diagnostics in Russia "Molecular Diagnostics 2025", Moscow, 11.11.2025
  14. International Veterinary Forum "VetExpert", Moscow, 29.10-30.10.2025
  15. Interstate Scientific and Practical Conference on Ensuring Animal Disease Freedom, Moscow, 28.11.2025
  16. Moscow International Veterinary Congress (MVC), Moscow, 2025
  17. Rus-LASA 2025 International School-Conference, Moscow, 04.04.2025
  18. Scientific and Practical Conference "Zero by 30: Global Strategy for Rabies Eradication in Action. The Role of Each Level of Responsibility", Moscow, 30.09.2025
  19. VIII International Poultry Farmers Forum of the Republic of Uzbekistan, Republic of Uzbekistan, Tashkent, 16.11-19.11.2025
  20. X International Conference "Fish: Aquaculture and Commercial Fisheries", St. Petersburg, 30.01.2025
  21. XII Kazakhstan International Poultry Farmers Forum, Republic of Kazakhstan, Astana, 24.06-26.06.2025
  22. XIV International Scientific and Practical Conference and Exhibition "Veterinary Medicine in the Agro-Industrial Complex – 2025", Novosibirsk, 02.06-06.06.2025
  23. XX International Scientific and Practical Conference "Baltic Forum on Veterinary Medicine and Food Safety", St. Petersburg, 24.09-26.09.2025
  24. II International Forum "The Future of Responsible Animal Care: Technologies, Standards, Legislation, and Cooperation", Novosibirsk, 15.10-18.10.2025

c) National conferences:

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1. 28th Young Scientists School-Conference "Biology - the Science of the 21st Century", Pushchino, Moscow Oblast, 23.04.2025
  2. III All-Russian Veterinary Congress on Infectious Diseases, St. Petersburg, 02.12-06.12.2025
  3. XXV All-Russian Conference on Caged Fur-Animal Farming, Tver, 2025
  4. All-Russian Conference of Young Scientists Dedicated to the 80th Anniversary of RAS Academician O.I. Kiselev "Viral Infections - From Diagnosis to Clinic," FGBI "A.A. Smorodintsev Research Institute of Influenza", St. Petersburg, 09.04-12.04.2025
  5. Far Eastern Poultry Farmers Forum, Khabarovsk, 01.03-06.03.2025
  6. Interregional Agro-industrial Conference IAC - 2025, Chelyabinsk, 05.02-07.02.2025
  7. National Veterinary Conference NVC 2025, Moscow, 12.11.2025
  8. Scientific and Practical Conference "Current Issues of Animal Pathogens: From Molecular Mechanisms to Infection Control," Nizhny Novgorod, 19 November 2025.
  9. Scientific Conference "Dyatlov Hills" (Current Issues in Animal Pathogens: From Molecular Mechanisms to Infection Control), Nizhny Novgorod, 2025.

d) Other (Provide website address or link to appropriate information):

1. 12th meeting of the Intergovernmental Russian-Emirati Commission on Trade, Economic, Scientific and Technical Cooperation, negotiations with representatives of the Ministry of Climate Change and Environment of the United Arab Emirates, Dubai, United Arab Emirates, 8-12 December 2025;
2. 13th meeting of the Russian-Indonesian Joint Commission on Trade, Economic and Technical Cooperation, Jakarta, Indonesia, 12-16 April 2025;
3. 1st Forum: "Future responsible animal handling: technologies, standards, legislation and cooperation" within the Cooperation Agreement of the Russian-Chinese Alliance for Responsible Animal Handling (RAAA-Russian-Asian Animal Alliance), Penza, 2025;
4. 1st GF-TADs Conference of Standing Group of Experts on priority transboundary animal diseases, Belgrad, Serbia, 22-25 September 2025;
5. 3rd meeting of the Intergovernmental Russian-Ugandan Commission for Economic, Scientific and Technical Cooperation, Kampala, Republic of Uganda, 4-10 October 2025;
6. Agrocomplex 2025, International Exhibition, Ufa, Russia, 17-20 March 2025;
7. Meeting of the Economic Affairs Commission under the CIS Economic Council at the Ministry of Economic Development of the Russian Federation (15 April 2025),
8. Meeting of the Council of Heads of Government of the CIS, at which comprehensive measures developed by the FGBI "ARRIAH" for the prevention and control of rabies, foot-and-mouth disease, avian influenza and Newcastle disease were reviewed and approved. (Minsk, 29 September 2025)
9. Caspian Agro 2025, 18th Azerbaijan International Agricultural Exhibition, Baku, Republic of Azerbaijan, 11 - 16 May 2025;
10. Dairy Asia Expo Exhibition, Lahore, Pakistan, 12 - 21 February 2025;
11. FAO/WOAH/WHO/UNEP Webinar "One Health", 5 December, 2025;
12. FeedVetGrain Expo-2025, Moscow, Russia, 30 October 2025;
13. GF-TADs Webinar "Update on the global situation of High Pathogenicity Avian Influenza (HPAI)".
14. Golden Autumn - 2025, XXVII Russian Agricultural Exhibition, Moscow, Russia, 2025.
15. IAEA Webinar. Advancing Irradiated Vaccines: Innovations, Policies and the Future. 18 September, 2025.

16. Meeting of the Council of Heads of Government of the CIS, at which comprehensive measures developed by the FGBI "ARRIAH" for the prevention and control of rabies, foot-and-mouth disease, avian influenza and Newcastle disease were reviewed and approved. (Minsk, 29 September 2025)
17. Meeting of the Economic Affairs Commission under the CIS Economic Council at the Ministry of Economic Development of the Russian Federation (15 April 2025),
18. OFFLU Pre VCM Meeting, on-line, February 6, 2025;
19. Round Table Discussion: Advancing Diagnosis and Implementing Modern, Safe, and Effective Preventive and Therapeutic Products for Salmon, Moscow, 12-13 February 2025
20. Sanya Exhibition of Russian Scientific Achievements in Biology, Sanya, People's Republic of China, 12 -16 January 2025;
21. Scientific Seminar of the Institute of Geographical Sciences and Natural Resources Research (IGSNRR) of the Chinese Academy of Sciences (CAS), Beijing, People's Republic of China, 27 -31 October 2025;
22. Seminar: Presenting the FGBI "ARRIAH" products to fish farming professionals, Tashkent, Republic of Uzbekistan, 27-31 July 2025;
23. Tackling high pathogenicity avian influenza together. Global science, policy, and private sector dialogue, 9-12 September 2025, Brazil(webinar).
24. VII International Workshop "The impact of climate changing on biological diversity and spreading of new viral infections in Eurasia", organized by Federal Research Centre FTM, Novosibirsk, 21-23 October 2025 (webinar).
25. VIV MEA 2025 International Trade Show from Feed to Food for the Middle East and Africa, Abu Dhabi, United Arab Emirates, 24 -27 November 2025;
26. WOA Regional information webinar on texts circulated for comments in TAHSC September 2025 report, for regions of Europe, Africa, and Middle East, 17 December, 2025.
27. WOA/FAO Webinar New Global Strategy for the Prevention and Control of High Pathogenicity Avian Influenza (2024–2033), March 3,2025.

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

*Methodical guidelines*

1. Methodical guidelines for detection of African Horse Sickness Virus (AHSV) RNA using real-time polymerase chain reaction.
2. Methodical guidelines for obtaining sensitizing and detector antibodies against foot-and-mouth disease virus antigen for developing liquid-phase blocking ELISA test kits.
3. Methodical guidelines for detection of atypical porcine pestivirus RNA using real-time polymerase chain reaction.
4. Methodical guidelines for sampling biological/pathological material from non-avian animal species atypical for influenza, poultry products, and production environment objects for laboratory tests for avian influenza.
5. Methodical guidelines for detection of Aujeszky's disease virus (suid herpesvirus 1) DNA using real-time polymerase chain reaction.
6. Methodical guidelines for determining toxicity of various concentrations of Hottinger's digest, used in vaccine production, and for assessing the growth of BHK-21/SUSP/ARRIAH cells.
7. Methodical guidelines for purification and concentration of feline calicivirus.
8. Methodical guidelines for detection of Mycoplasma gallisepticum antibodies using hemagglutination inhibition test.
9. Methodical guidelines for calculating number of Classical swine fever virus genome copies in virus-containing material using real-time quantitative RT-PCR.
10. Methodical guidelines for laboratory diagnosis of bovine mastitis caused by Streptococcus bacteria.
11. Methodical guidelines for canine parvovirus purification and concentration.
12. Methodical guidelines for feline viral rhinotracheitis virus purification and concentration.
13. Methodical Guidelines for detection of crayfish plague (Aphanomyces astaci) DNA using real-time PCR.
14. Methodical guidelines for laboratory diagnosis of bovine mastitis caused by Staphylococcus bacteria.
15. Methodical guidelines for evaluating virucidal activity of disinfectants used in veterinary medicine (using African swine fever and avian influenza agents as examples).
16. Methodical guidelines for cytological diagnosis of avian adenovirus infection: techniques for detecting intranuclear inclusion bodies.
17. Methodical guidelines used to differentiate genomes of LISTERIA MONOCYTOGENES of Serogroup (1/2a, 3a), (1/2c, 3c), and (4b, 4d, 4e) in products of animal origin using real time PCR.
18. Methodical guidelines for detection of African swine fever virus Genotype I and recombinant variant genomes using real-time PCR.
19. Methodical guidelines for subgenotyping African swine fever virus Genotype II isolates into topotypes and genetic lineages.
20. Methodical guidelines for canine adenovirus purification and concentration.
21. Methodical guidelines for detection of antibodies to peste des petits ruminants virus in sera from small ruminants and other susceptible ruminants using an indirect ELISA based on recombinant nucleocapsid protein.
22. Methodical guidelines for detection and differentiation of rabbit myxoma virus genome using real-time polymerase chain reaction and oligonucleotide sequencing.
23. Methodical guidelines for assessing infectious activity of canine parvovirus enteritis virus using a micromethod in cell culture.
24. Methodical guidelines for measuring chicken infectious anemia virus concentration using real-time PCR.
25. Methodical guidelines for calculating vaccine needs for ARRIAH-VAC culture inactivated emulsion vaccine against FMD.
26. Methodical guidelines for detection of L. monocytogenes and other Listeria spp. in feeds, feed additives, raw materials, and ingredients for feed production.
27. Methodical guidelines for determining the primary structure of a chicken infectious anemia virus genome fragment using nucleotide sequencing.
28. Methodical guidelines for subgenotyping Classical swine fever virus using phylogenetic analysis with RT-PCR and nucleotide sequencing.
29. Methodical guidelines for detection and identification of Xanthomonas campestris bacteria in food products and food additives.
30. Methodical guidelines for detection of Seneca valley virus antibodies using a microneutralization test.
31. Methodical guidelines for detection of Aliivibrio Salmonicida DNA in salmonid fish using real-time polymerase chain reaction.
32. Methodical guidelines for detection of Classical swine fever virus-specific antibodies using immunoperoxidase-based virus neutralization assay.
33. Methodical guidelines for detection of Mycoplasma capricolum subsp. capripneumoniae (Mccp) DNA, causative agent of contagious caprine pleuropneumonia, using polymerase chain reaction with electrophoretic detection of amplification products in agarose gel.

34. *Methodical guidelines for detection of avian influenza virus Subtype H6 RNA using real-time RT-PCR.*
35. *Methodical guidelines for detection of hepatitis E virus Genotype 3 RNA using real-time polymerase chain reaction.*
36. *Methodical guidelines used to detect genomes of Vibrio anguillarum strain 2 and Vibrio anguillarum strain 19 using real-time polymerase chain reaction.*
37. *Methodical guidelines for detection and differentiation of rabbit hemorrhagic disease virus genome using real-time polymerase chain reaction and oligonucleotide sequencing.*

*Patents:*

- Patents for strains 19*
- Patents for methods 19*
- Patents for test kits 2*
- Patents for vaccines 22*

12. Additional comments regarding your report: