



Joint FAO/IAEA Centre
Nuclear Techniques in Food and Agriculture

VETLAB Network

**Networking veterinary laboratories to build capacities,
transfer technologies and exchange knowledge**

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IAEA

Joint FAO/IAEA Centre
Nuclear Techniques in Food and Agriculture

Importance of Veterinary Laboratory Networking

Sharing of
expertise,
data,
information
and materials

Improving
access to
capacity
building and
R&D activities

Optimizing
use of
technical,
financial and
human
resources

Synergizing
efforts for the
control of
TADs and
zoonoses

The VETLAB NETWORK

A global veterinary laboratory NETWORK :

- To strengthen collaboration among veterinary diagnostic laboratories and offer them a variety of capacity-building and training opportunities
- To share knowledge and experience for strengthening national and regional capacities for early and rapid diagnosis, and improves Member States' emergency response capabilities to control outbreaks of animal diseases
- To react fast and efficiently to animal health threats
- Currently the network includes veterinary laboratories in Africa and Asia

The VETLAB NETWORK

The Key components are:

- The NETWORK with veterinary labs involved in Joint FAO-IAEA Division projects
- The technical and advocacy meetings of laboratories heads
- The VETLAB CRPs
- The VETLAB bulletin
- The VETLAB information platform

The VETLAB NETWORK: Focus

Mitigate animal and zoonotic disease threats

Communication and information exchange among veterinary laboratories

Capacity building

Experience exchange (connecting VETLAB of different regions, continents)

Harmonization of procedures

Promoting collaboration and collaborative R&D

The VETLAB NETWORK: Main Activities

Improved MS diagnostic capacity

- Development and harmonization of diagnostic methodologies
- Provision of standards and protocols
- Exchange of materials

Capacity building & technology transfer

- Training in molecular and serological techniques
- Training in QA
- Training in immunology and vaccine QC
- Support to existing national/regional lab networks

Services

- Support in accreditation
- Proficiency tests
- Distribution of SOPs
- Sequencing service

R&D activities

- Collaborative research activities (CRP, TCP, others)
- Fellowships program
- PhD program

Some activities of the VETLAB Network

INFORMATION, KNOWLEDGE AND EXPERIENCE EXCHANGE

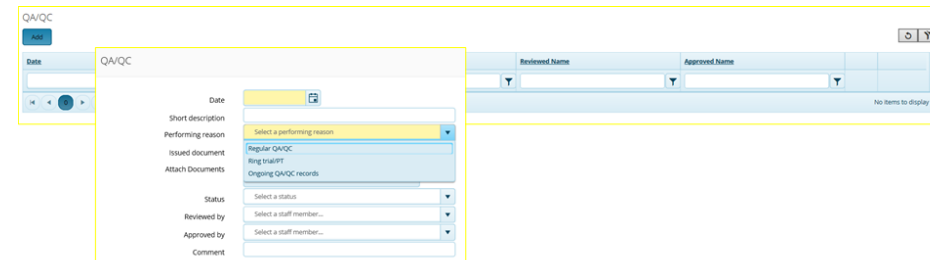


7th joint coordination meeting for Africa and Asia (August 2023)

Proficiency testing
PT 2022 finalized (PPR)
PT 2023 ongoing



Countries contribute to the VETLAB Bulletin (2 yearly)



iVetNet – Information platform of APH
Support the implementation of ISO 17025

Some activities of the VETLAB Network

CAPACITY BUILDING AND TECHNOLOGY TRANSFER



Training courses and workshops (2-3 yearly)

Fellowship and long-term training in collaboration TC

- Senegal, Tunisia (ZODIAC fellowship on Bioinformatics)
- Botswana (1 TC sponsored fellows)

On-site training and assessment

- Indonesia
- Planned in end 2023 in Ethiopia and Indonesia, to support the implementation of NGS



Some activities of the VETLAB Network

RAPID RESPONSES TO DISEASE OUTBREAKS AND LABORATORY PREPAREDNESS

Training, SOPs sharing and emergency toolboxes (reagents, positive controls), and support to sample submission for the virus's genetic characterization

LSDV and other poxviruses

- Support to Europe and central Asia in collaboration with TC (2016)
- Support to Asian countries (2019-2020 and ongoing)
- Continuous support to endemic regions
- Recent examples 2023: Sri Lanka, Ethiopia, Lybia, Guinea, Mauritania

African swine fever and swine diseases

- Support to Asia in collaboration with TC (2019-2020)
- Continuous support to endemic region
- Recent examples: Tanzania, Mozambique, Zambia, Mali, Ivory coast

Avian Influenza Virus

- Continuous support to affected regions
- Recent examples: Guinea, Mauritania, Namibia, Mozambique, Kuwait

Some activities of the VETLAB Network

TECHNICAL SUPPORT TO DIAGNOSTIC CONFIRMATION AND PATHOGEN CHARACTERIZATION

LSDV and other poxviruses

- Ethiopia, Tanzania, Sri Lanka, Libya, Guinea

African swine fever and swine diseases

- Tanzania, Mozambique, Zambia, Mali, Ivory coast

Avian Influenza Virus

- Continuous support to affected regions
- Recent examples: Burkina Faso, Ghana, Cameroon, Tunisia, Guinea, Mauritania, Mozambique, Kuwait

Peste des petits ruminants (PPR)

Burkina Faso, Ghana, Cameroon, Tunisia, Guinea, Mauritania, Bhutan

SOME HIGHLIGHTS



Laboratory capacities

- Molecular diagnostic capacity was strengthened in the partner laboratories
- Adoption of multiparametric detection of pathogens (2023):
 - Abortifacients agents (Botswana, Burkina Faso)
 - Pox lesions (Ghana, Nigeria)
 - Hemorrhagic diseases of swine (Burkina Faso)
 - Respiratory diseases of ruminants (Mongolia, Tanzania, Vietnam, Chad)
 - Birds' viruses (Tunisia)

SOME HIGHLIGHTS



Early diagnosis enabled rapid response

- First detection and official notification of LSDV to OIE by Mongolia (2021)
- Detection and official notification of LSDV to OIE by Indonesia
- Detection and official notification of LSDV to OIE by Myanmar
- Detection and official notification of LSDV to OIE by Bhutan
- Detection and official notification of LSDV to OIE by Sri Lanka
- Detection and official notification of AI to OIE (Botswana and Lesotho)
- First detection and official notification of LSDV to WOAHA by Libya (2023)

SOME HIGHLIGHTS

APH publications with VETLAB partners (Since September 2022)



Article
Poxvirus Infections in Dairy Farms and Transhumance Cattle Herds in Nigeria

David Oludare Omoniwa^{1,2}, Irene Kasindi Meki³, Caleb Ayuba Kudi², Anthony Kojo Sackey², Maryam Aminu⁴, Adeyinka Jeremy Adedeji⁵, Clement Adebajo Meseko⁵, Pam Dachung Luka^{5,*}, Olayinka Oluwafemi Asala⁵, Jolly Amoche Adole⁵, Rebecca Bitiyong Atai⁵, Yakubu Joel Atuman⁵, Tirumala Bharani Kumar Settypalli³, Giovanni Cattoli³ and Charles Euloge Lamien³



Communication
The Spread of Peste Des Petits Ruminants Virus Lineage IV in West Africa

Emmanuel Couacy-Hymann^{1,†}, Kouramoudou Berete^{2,†}, Theophilus Odoom^{3,†}, Lamouni Habibata Zerbo^{4,†}, Koffi Yao Mathurin¹, Valère Kouame Kouakou¹, Mohamed Idriss Doumbouya⁵, Aminata Balde², Patrick Tetteh Ababio³, Lalidia Bruno Ouoba⁴, Dominique Guigma⁴, Adama Dji-tombo Drobo⁴, Mariétou Guitti⁴, Sherry Ama Mawuko Johnson⁶, David Livingstone Mawuko Blavo⁶, Giovanni Cattoli⁷, Charles E. Lamien⁷ and William G. Dundon^{7,*}

Veterinary Research Communications
<https://doi.org/10.1007/s11259-023-10100-6>

BRIEF REPORT



Avian influenza H5N1 in a great white pelican (*Pelecanus onocrotalus*), Mauritania 2022

Abdellahi Diambar Beyit¹ · Irene K. Meki² · Yahya Barry¹ · Mohamed Lemine Haki¹ · Abdellahi El Ghassem¹ · Sidi Mohamed Hamma¹ · Navee Abdelwahab¹ · Baba Doumbia³ · Hacen Ahmed Benane³ · Daf Sehla Daf⁴ · Zein El Abidine Sidatt⁴ · Lemrabbott Ould Mekhalla⁵ · Bezeid El Mamy^{5,6} · Mohamed Ould Baba Gueya⁷ · Tirumala Bharani Kumar Settypalli² · Hatem Ouled Ahmed Ben Ali² · Sneha Datta² · Giovanni Cattoli² · Charles E. Lamien² · William G. Dundon²

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www.nature.com/scientificreports

scientific reports



OPEN **A novel multiplex qPCR-HRM assay for the simultaneous detection of four abortive zoonotic agents in cattle, sheep, and goats**

Boitumelo M. Modise^{1,2}, Sununguko W. Mpoloka³, Tirumala B. K. Settypalli³, Joseph Hyera⁴, Alda Natale⁵, Letizia Ceglie⁵, Nomakorinte Gcebe⁶, Chandapiwa Marobela-Raborokgwe¹, Gerrit J. Viljoen³, Giovanni Cattoli³ & Charles E. Lamien³

SOME HIGHLIGHTS

APH publications with VETLAB partners (Since September 2022)



Article

A Phylogeographic Analysis of Porcine Parvovirus 1 in Africa

Giovanni Franzo ^{1,*}, Habibata Lamouni Zerbo ², Bruno Lalidia Ouoba ², Adama Drabo Dji-Tombo ², Marietou Guitti Kindo ², Rasablaga Sawadogo ², Jelly Chang'a ³, Stella Bitanyi ³, Aloyce Kamigwe ³, Charles Mayenga ³, Modou Moustapha Lo ⁴, Mbengué Ndiaye ⁴, Aminata Ba ⁴, Gaye Laye Diop ⁴, Iolanda Vieira Anahory ⁵, Lourenço P. Mapaco ⁵, Sara J. Achá ⁵, Valere Kouame Kouakou ⁶, Emmanuel Couacy-Hymann ⁶, Stephen G. Gacheru ⁷, Jacqueline K. Lichoti ⁷, Justus K. Kasivalu ⁷, Obadiah N. Njagi ⁷, Tirumala B. K. Settypalli ⁸, Giovanni Cattoli ⁸, Charles E. Lamien ⁸, Umberto Molini ^{9,10} and William G. Dundon ⁸

Emerging Microbes & Infections
2023, VOL. 12, 2167610 (4 pages)
<https://doi.org/10.1080/22221751.2023.2167610>



LETTER

OPEN ACCESS [Check for updates](#)

Highly pathogenic avian influenza H5N1 virus outbreak among Cape cormorants (*Phalacrocorax capensis*) in Namibia, 2022

Umberto Molini ^{10,a,b}, John Yabe ^{10,a}, Irene K. Meki ^c, Hatem Ouled Ahmed Ben Ali ^c, Tirumala B. K. Settypalli ^{10,c}, Sneha Datta ^{10,c}, Lauren Michelle Coetzee ^{10,b}, Ellini Hamunyela ^b, Siegfried Khaisab ^{10,b}, Giovanni Cattoli ^c, Charles E. Lamien ^{10,c} and William G. Dundon ^{10,c}



Communication

Emergence of High Pathogenicity Avian Influenza Virus H5N1 Clade 2.3.4.4b in Wild Birds and Poultry in Botswana

Samantha L. Letsholo ^{1,*}, Joe James ², Stephanie M. Meyer ², Alexander M. P. Byrne ², Scott M. Reid ², Tirumala B. K. Settypalli ³, Sneha Datta ³, Letlhogile Oarabile ⁴, Obakeng Kemolatlhe ⁴, Kgakgamatso T. Pebe ⁴, Bruce R. Mafonko ⁴, Tebogoo J. Kgotlale ¹, Kago Kumile ¹, Boitumelo Modise ¹, Carter Thanda ¹, John F. C. Nyange ¹, Chandapiwa Marobela-Raborokgwe ¹, Giovanni Cattoli ³, Charles E. Lamien ³, Ian H. Brown ², William G. Dundon ³ and Ashley C. Banyard ^{2,*}



microorganisms



Article

Development and Optimization of Indirect ELISAs for the Detection of Anti-Capripoxvirus Antibodies in Cattle, Sheep, and Goat Sera

Francisco J. Berguido ^{1,2,*}, Esayas Gelaye ³, Yang Liu ⁴, Batdorj Davaasuren ⁵, Kiril Krstevski ⁶, Igor Djadjovski ⁶, Emiliya Ivanova ⁷, Gabriela Goujgoulova ⁷, Angelika Loitsch ⁸, Eeva Tuppurainen ⁹, Tesfaye Rufael Chibssa ¹⁰, Philippe Caufour ¹¹, Milena Samojlović ¹², Sava Lazić ¹², Tamaš Petrović ¹², Dejan Vidanović ¹³, Stéphane Bertagnoli ¹⁴, Reingard Grabherr ², Adama Diallo ^{11,15}, Giovanni Cattoli ¹ and Charles Euloge Lamien ¹

SOME HIGHLIGHTS

APH publications with VETLAB partners (Since September 2022)

Archives of Virology (2022) 167:2715–2722
<https://doi.org/10.1007/s00705-022-05593-6>

BRIEF REPORT



Coinfections of African swine fever virus, porcine circovirus 2 and 3, and porcine parvovirus 1 in swine in Nigeria

Pam Dachung Luka¹ · Adeyinka Jeremy Adedeji¹ · Anvou R. Jambol¹ · Isioma V. Ifende¹ · Helen G. Luka¹ · Nyam D. Choji¹ · Rebecca Weka¹ · Tirumala B.K. Settypalli² · Jenna E. Achenbach³ · Giovanni Cattoli² · Charles E. Lamien² · Umberto Molini^{4,5} · Giovanni Franzo⁶ · William G. Dundon^{2,7}

The Journal of
**Veterinary
Medical
Science**



NOTE

Virology

Molecular characterization of porcine circovirus-2 and -3 in pigs in Tanzania

Jelly S CHANG'A¹, Stella S BITANYI¹, Aloyce KAMIGWE¹, Bishop MAGIDANGA¹, Shukuru GUO¹, Paulina MAKOROMA¹, Gundelinda FRANCIS¹, Jumanne JUMBE¹, Mashaka JEREMIAH¹, Denis NYAKILINGA¹, Mercy MWASHA¹, Kimweri MSANGI¹, Giovanni CATTOLI², Giovanni FRANZO³, Umberto MOLINI^{4,5}, William G DUNDON²*

Veterinary Research Communications (2023) 47:981–985
<https://doi.org/10.1007/s11259-022-10038-1>

BRIEF REPORT



Evidence indicating transmission of porcine parvovirus 1 between warthogs and domestic pigs in Namibia

Umberto Molini^{1,2} · Lauren M. Coetzee² · Maria Y. Hemberger¹ · Siegfried Khaiseb² · Giovanni Cattoli³ · William G. Dundon^{3,4}

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pathogens



Communication

Comparison of the Whole-Genome Sequence of the African Swine Fever Virus from a Mongolian Wild Boar with Genotype II Viruses from Asia and Europe

Ulaankhuu Ankhanbaatar^{1,2,t} , Agathe Auer^{3,4,*} , Gerelmaa Ulziibat¹, Tirumala B. K. Settypalli³ , Delgerzul Gombo-Ochir¹, Ganzorig Basan¹, Taichiro Takemura³, Erdene-Ochir Tseren-Ochir², Hatem Ouled Ahmed³, Irene Kasindi Meki³ , Sneha Datta³, Baba Soumare⁴, Artem Metlin⁴, Giovanni Cattoli³ and Charles E. Lamien³

SOME HIGHLIGHTS



Involvement of VETLAB partners in ZODIAC CRP

- National Centre for Veterinary Diagnosis (Vietnam)
- Central Veterinary Laboratory (Nepal)
- Research Organization for Health, National Research and Innovation Agency (Indonesia)
- National Institute of Animal Health (NIAH), Department of Livestock Development (Thailand)
- State Central Veterinary Laboratory (Mongolia)

FAO/IAEA Agriculture and Biotechnology Laboratory



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**Animal Production and Health
Sub-programme**

Thank You

