

# GFRA Newsletter

December 2024

## OUR VISION:

A coordinated global alliance of scientists producing evidence and innovation that enables the progressive control and eradication of FMD.

## OUR MISSION:

To establish and sustain global research partnerships to generate scientific knowledge and discover the tools to successfully prevent, control and eradicate FMD.



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## Welcome to our New Member!

We are delighted to announce the addition of our new esteemed member:

**National Livestock Resources Research institute (NaLIRRI)**

This institution brings a wealth of expertise and innovation to our FMD community. We look forward to their valuable contributions and collaboration in advancing our shared goals.

Please join us in welcoming them!

# GFRA Forum at the EuFMD Open Session 2024: Integrating Science, Regulation, and Producers for Effective FMD Control

*The GFRA executive committee would like to thank EuFMD as well as all participants, speakers, panellists, and sponsors for a successful GFRA Forum held on the last day of the EuFMD open session. Our goal was to bring together scientists, regulators, and producers to discuss topics that affect all partners involved in controlling FMD. The full summary can be found here: [Report of the GFRA Session at EuFMD OS24.pdf](#), with the key observations being summarised below.*

## 1. Why Should We Control FMD?

- **Cost-Benefit Analysis of FMD Control:**
  - Previous studies on the cost-benefit of controlling FMD have faced significant challenges due to the complexity of factors involved, such as the impact of movement restrictions on local cultures. There is a need for closer collaboration with economists to develop effective strategies.
- **Vaccination Campaigns in South America:**
  - With efforts to phase out vaccination in South America, the necessity of stopping vaccination campaigns is questioned. Further studies are needed to evaluate the costs of vaccination in relation to the risks of potential FMD reintroduction.
- **Maintaining FMD Relevance:**
  - Discussions highlighted the importance of keeping FMD a priority for countries, motivating them to analyze samples and stay vigilant. Broader funding approaches, such as leveraging climate change or antibiotic resistance initiatives, may help ensure the continued relevance of FMD control.



## 2. FMD Control Using Improved Diagnostics

- **Simplifying Diagnostics:**
  - Despite advances in diagnostics, underreporting remains a significant issue. There is a push for developing simpler and more cost-effective methods, such as lateral flow devices (LFDs). However, questions remain about their adoption, timing, and industry investment for commercialization.
- **Understanding Country-Specific Challenges:**
  - A bottom-up approach was proposed, starting with the specific needs of endemic or free countries and working backwards to identify diagnostic gaps and develop tailored solutions.
- **Innovative Technologies:**
  - More innovation is needed in diagnostic tools, including air sampling technologies with rapid analysis capabilities to enhance FMD surveillance and response.



## 3. Control of FMD Using Novel Vaccines

- **Defining Immune Response Goals:**
  - There is a lack of clarity on what constitutes a robust immune response and how long protection lasts after initial infection. Without this understanding, setting benchmarks for vaccine development remains difficult.
- **Reducing Industry Risk:**
  - The high cost and risk associated with developing and testing vaccines using new technologies deter industry investments. Collaborative efforts to share resources and expertise are needed to mitigate these risks.
- **Challenges with Live-Attenuated Vaccines:**
  - While the registration of live-attenuated vaccines is possible, the extensive safety evidence and testing required may discourage industry efforts to advance these technologies, yet these challenges also present an opportunity for innovation and collaboration to enhance vaccine development.



# THANK YOU to our sponsors!

The GFRA Committee extends its many thanks for the generous contributions from our sponsors to make the GFRA Forum at the Open Session 2024 possible.



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## Reflections on the EuFMD Open Session 2024

The GFRA is proud to provide travel bursaries to support the participation of scientists from around the world in global scientific meetings.

### Natig Javadov

I have been working on the position chief consultant of the Animal Health and Biology Security Department, sector risk management of animal health and crisis situations of the Food Safety Agency of the Republic of Azerbaijan above 6 years and have continuous work experience (more 24 years) on national surveillance and control systems on dangerous animal and zoonosis diseases, as well on field epidemiology.

I have more experience in participating international workshop, trainings, symposiums, conferences on epidemiological surveillance and emergency preparedness for FAST, infectious animal and zoonosis diseases, organized by USDA/APHIS, International Atomic Energy Agency (IAEA), WOH and FAO Regional Office for Europe and Central Asia.

I am extremely grateful to GFRA for providing me with the opportunity to participate for the first time in the Open Session 2024 with my poster presentation.

I found the presentations by colleagues and the discussions on a wide range of topics, including the latest research on FMD and similar transboundary animal diseases, development of new diagnostics and vaccines, and implementation of more effective disease control strategies, to be very informative, engaging and enjoyable.

Also, it was a pleasure to participate in a relaxed and enjoyable atmosphere with other participants and my colleagues. I left the Open Session with new connections and a renewed commitment to the important work that lies ahead. Also, I would like to express my deep gratitude to CRDF Global for excellent organizing travel arrangements.



### Keneiloe Malokotsa

Firstly, I would like to thank and appreciate GFRA for availing funds so that I can attend the EuFMD open session. This was indeed a highlight in my career as well as my academic journey on FMD disease. During the Open Session, a wide range of topics, including the latest research on foot-and-mouth disease and similar transboundary animal diseases, the development of new diagnostics, and vaccines and the implementation of more effective disease control strategies were discussed and showcased.

On day 3 of the conference, for the first time ever, EuFMD joined with the Global FMD Research Alliance (GFRA) where the GFRA hosted a forum to explore some of the bigger questions at the intersection of FMD science and FMD policymaking. For me personally, this was the most interesting session as it allowed more time for discussions to be made on different subjects.

Attending this conference was beneficial for me as this was an opportunity to connect with international collaborators of FMD research and enhance my knowledge which will benefit my postgraduate study. My presence at the conference allowed me to meet with international collaborators and discuss FMD diagnostics challenges with the World Reference lab (WRL) colleagues from the Pirbright Institute who were also attending the EuFMD. As a research technician involved daily in FMD diagnostics, this was indeed beneficial, I had an opportunity to discuss a lot with our colleagues from WRL which gave me some solutions to challenges we face in diagnostics.

Overall, this experience was priceless.

## Abubakar O. Woziri

I am deeply grateful to the Global Foot-and-Mouth Disease Research Alliance (GFRA) for sponsoring me to attend the 2024 Open Session of the European Commission for the Control of Foot-and-Mouth Disease that was held at Madrid, Spain from the 29th of October, 2024 to the 31st of October, 2024. This opportunity was my first conference opportunity on an European soil. As a recipient of the GFRA-issued travel bursaries to the Open Session 2024, I had the rare opportunity to listen to quality discussions on burning issues on FMD research, and also added my voice to some of the scientific discussions. The discussions were rich, frank and geared toward overall improvement of the understanding of FMD in diverse perspectives. The Session was an eye-opener for me, as it provided me with the rarest opportunity to meet and network with renowned Scientists from globally reputable institutions. I was able to effectively network with over fifty (50) scientists, and I gained more than five (5) promising collaborations from researchers in South Africa, Germany, Australia, Italy and USA. I was also able to network with representatives of some companies in attendance. Overall, the 2024 EuFMD Open Session is a life-changing event that will be on top of my mind for years to come. I truly enjoyed every bit of the symposium and I am once again grateful to the GFRA for their kind sponsorship.



## Qaiser Akram

I'm Dr. Qaiser Akram, Assistant Professor of Microbiology at University of Veterinary and Animal Sciences Lahore Pakistan. Attending the Open Session 2024 was a truly enriching experience, and I'm grateful to the GFRA Executive Committee for the travel bursary that made it possible for me from LMIC to attend this session and present my work. The opportunity to engage with renowned experts and like-minded individuals from diverse backgrounds was invaluable. The session's thought-provoking discussions, insightful presentations, and collaborative atmosphere broadened my perspectives and deepened my understanding of the field. I appreciated the chance to share my own research and receive constructive feedback, which will undoubtedly improve my future work. The connections I made and the knowledge I gained will have a lasting impact on my professional development, and once again I'm thankful to GFRA for facilitating this experience.



## Hellen Mutua

My name is Hellen Mutua, and I am from the Foot and Mouth Disease National Reference Laboratories. I had the privilege of attending the recent meeting, and I would like to share the valuable insights gained from the event.

During the meeting, I learned about the evolving landscape of Foot and Mouth Disease (FMD) and other transboundary animal diseases, emphasizing the importance of adapting to these changes. Additionally, the discussions covered key strategies for supporting disease control, as well as how modeling can enhance emergency preparedness and response efforts. One of the major takeaways was the use of improved diagnostic tools in the control of FMD.

I look forward to sharing this knowledge with my colleagues at the Foot and Mouth Disease National Reference Laboratories, which will contribute to refining our diagnostic techniques and control strategies.

Thank you for your continuous support, which enabled me to attend this important meeting.

## Daddy Kibambe

Attending the Open Session 2024 in Madrid, Spain as a recipient of the Global Foot-and-mouth disease Research Alliance (GFRA) travel bursary was an incredibly enriching experience. The conference provided a dynamic platform to engage with leading experts in the field of veterinary epidemiology, offering invaluable insights into Foot-and-Mouth Disease (FMD) current advancements and challenges. A standout moment was the final day, hosted by GFRA, where they shared expertise on the critical importance of controlling animal diseases like FMD. This session highlighted the far-reaching impacts of disease control on global food security, livelihoods, and economic stability, leaving a lasting impression on me. The diverse presentations, stimulating discussions, and networking opportunities throughout the conference deepened my understanding and inspired innovative approaches for my work. I am immensely grateful to GFRA executive committee for their support through the bursary, which made my participation possible. This experience has reaffirmed my commitment to contributing meaningfully to the control and prevention of FMD.



## Judith Momo

I take this opportunity to thank the entire organizing team of the successful FMD Open session 2024. Thanks for inviting me to the session, it was a wonderful experience. I am also much grateful to the GFRA for going the extra mile to offer funding to invitees who were not able to fund themselves. The session was a golden opportunity for me to travel, meet, interact, make connections and above all receive and share new research findings on FMD and other trans boundary diseases with other scientists from all-over the world. The conference was lively, in a good environment and accommodation was superb.

## Melanie Chitray

As a researcher focusing on transboundary animal diseases, the EuFMD Open Session is one of the key FMD meetings that is of importance for me to attend. However, there have been instances where I was not able to attend in the past due to the cost factor to travel from South Africa and lack of funding availability. But for the 2024 conference, I was fortunate enough to be awarded a full travel bursary to attend the EuFMD Open Session 2024 in Spain. The GFRA in conjunction with CRDF Global made this a reality for me through their sponsorship and efficient travel bookings and arrangements and I would like to take this opportunity to thank them for investing in me. My attendance provided me the chance to present my research work in-person on “A cross-sectional study of FMDV in African Buffalo in the Kruger National Park, South Africa” and showcase it on an international platform.

Additionally, it was beneficial to participate in the conference’s wide range of topics, including the latest research on FMD and similar transboundary animal diseases, the development of new diagnostics, and vaccines as well as the implementation of more effective disease control strategies. I was also thrilled to be present to attend the GFRA forum day and participate as a panellist. In-person attendance allowed me to network and have side meetings with my collaborators as well as arrange a GFRA African Chapter meeting with current and new members. Of course being able to visit and explore the beautiful Spanish city of Alcalá de Henares was an added bonus. I am grateful for the travel sponsorship, which provides opportunities for students and scientists from LMIC that they may not be able to attain otherwise. Well done to the GFRA and CRDF Global teams!



# GFRA Africa Chapter Update

*By Melanie Chitray,  
GFRAAC Southern Africa Regional Leader*



Photo of the participants of the GFRA African Chapter meeting held at EuFMD OS24, Spain, October 2024.

**During the EuFMD OS24 meeting held in Spain this year, delegates and scientists present from Africa gathered to extend discussions about the GFRA African Chapter (GFRAAC) and invited new participants to join the working group. This was the GFRAAC's first in-person meeting since the group's inception in November 2023. Subsequent to this meeting, five new members have joined further expanding the network of this group. GFRAAC currently has 42 participants from 13 countries in Africa and has cemented its leadership by appointing regional leaders i.e. Dr Mohamed Fawzy for Northern Africa; Dr Melanie Chitray for Southern Africa; Dr Susan Kerfua for East Africa; Dr Hussaini Gulak for West Africa; Dr Sevidzem Lendzele for Central Africa and our Chair is Prof Frank Mwiine. The terms of reference for these leaders have been determined and their roles will be essential to ensure that the objectives and goals of GFRAAC are accomplished and maintained. We would like to take this opportunity to wish the regional leaders well on their appointments and thank them for accepting this role as well as for their contributions to GFRAAC. The GFRAAC will facilitate the mission of the GFRA by focusing on strategic objectives tailored to the African context. All FMD organisations and institutes working on FMD on the African continent are encouraged to join this working group that aims to facilitate the mission of the GFRA by focusing on strategic objectives tailored to the African context by supporting collaborative research, strengthening partnerships, expanding membership, and ensuring knowledge sharing to advance FMD control in Africa.**



# GFRA Webinar Series: Epidemiology, Point of care diagnostics, and FMD vaccines

*By Melanie Chitray & Gisselle Medina*

*Agricultural Research Council, Onderstepoort Veterinary Institute (ARC-OVR), South Africa  
United States Department of Agriculture, Agricultural Research Service (USDA -ARS)*

The GFRA research webinar series focuses on topics related to FMD globally. It is a collaborative effort between the GFRA and the Civilian Research and Development Foundation (CRDF). Since the start of the webinar series two years ago, it has gained much popularity with an average of 43 participants from 20 countries. For the latter half of 2024, webinars featured presentations relating to East and West Eurasia as well as South and East African regions.



In September we hosted a joint webinar with Drs Melissa McLaws (FAO co-chair for the GF-TADs FMD Working Group) and Bouda Ahmadi (Coordinator of the GF-TADs Global Secretariat at FAO). The risk of foot-and-mouth disease SAT2 introduction and spread in countries in the Near East and West Eurasia was presented. This talk highlighted the efforts by the FAO to alert countries in the East and West Eurasia about this risk in order to enhance preparedness. The qualitative risk assessment done based on likelihood and impact analyses was presented comprehensively, which showed the advantage of this framework to guide prevention and response activities. Based on this work, the importance of countries having an emergency response plan to manage a sudden increase in FMD cases was recommended.

Tackling FMD in the African environment and technology development for trade was the title of the webinar for October, which was presented by Dr Phiyani Lebea, the managing Director of Tokabio, South Africa. Dr Lebea highlighted the importance of improving the control of notifiable diseases on the African continent, which would considerably boost the economy due to animal product export. He highlighted the gap that exist for rural Africa with regards to a lack of technology to control and manage disease, which impacts socio-economic platforms. In this regard, Dr Lebea showed his work done on a portable battery-operated isothermal PCR device which allows for in-field testing of FMD. Reagents are lyophilized which eliminates the cold chain requirement and a mobile application can be used for results. Further work on point-of-care diagnostics and pandemic preparedness, which is advantageous for surveillance, outbreak containment and post-vaccination monitoring was presented. Dr Lebea also explained the successful application of his work using mobile laboratories.





**Mr. Badi Maulidi, the Buyer relations lead AgResults FMD vaccine challenge project, presented on Supporting the development and access to high-quality FMD vaccines in Eastern Africa for the November webinar. The AgResults is a \$152M multi-donor FMD Vaccine Challenge Project that aims to improve animal health and smallholder farmer livelihoods by increasing the use of FMD vaccines tailored to Eastern Africa. Mr. Maulidi showed that the project is an 8-year, US\$17.34M prize competition that supports development, registration, and uptake of high-quality FMD vaccines tailored to match the currently circulating strains in six Eastern Africa countries: Burundi, Ethiopia, Kenya, Rwanda, Tanzania, Uganda. The presentation highlighted the project objectives, anticipated outcomes, experiences, key public-private partnerships to address challenges and proposed ways forward from implementation of this AgResults FMD Vaccine Challenge Project.**

**The December webinar was by Dr. Sandra Blaise-Boisseau, deputy head of the team “BIOPIC” in the Virology Joined research Unit (JRU) of the ANSES laboratory for animal health (Maisons-Alfort, France). Her presentation was titled Molecular Interplays of FMDV with the type I IFN Response: Importance of the Model and potential links with viral persistence. It was shown that the identification of virus-host interactions is critical for understanding the host defense against virus infections and the pathogenesis of viral infectious diseases. Why FMDV persistence matters and the clues to elucidate mechanisms underlying persistence were shown. An in vitro model to study FMDV persistence in primary bovine nasopharyngeal epithelial cells and the distinct transcriptomic signatures during acute vs persistent infection was detailed. Dr Blaise-Boisseau also described the role of FMDV Leader protease and the studies done on Leaderless FMDV which confirmed the strong attenuation of leaderless FMDV for a new serotype and a virulent panzootic parental lineage (O/ME-SA/PanAsia). The advantage is that leaderless viruses could be used for safer production of inactivated vaccines or for virus neutralization tests with reduced biocontainment requirements. Further conclusions made was that studying the protein interactions between FMDV and its different hosts, combined with transcriptomic analyses in relevant cell models from species of interest, could greatly contribute to better understand the pathogenesis of FMDV infection and thus improve FMD control.**



# A Message from Alejandra Capozzo, GFRA Chief Executive Officer

**Dear GFRA Members,**

**As we wrap up this year, I would like to extend my heartfelt gratitude to all the GFRA Executive Committee members, member institutions, and their dedicated researchers for supporting our activities throughout 2024. Your contributions have been invaluable in driving forward our shared mission to advance Foot-and-Mouth Disease (FMD) research and control.**

**Looking ahead to 2025, we invite you to continue working with us, sharing your work, and highlighting your activities in our newsletter. Our ongoing initiatives, such as webinars, newsletters, and technical reports, will continue next year, and we are thrilled to host our 2025 in-person Scientific Meeting. Stay tuned for updates by visiting our website: [www.ars.usda.gov/gfra](http://www.ars.usda.gov/gfra).**

**This year, we were delighted to welcome two new institutions to the GFRA, expanding our global network of research laboratories dedicated to FMD. We aim to continue growing, building a network that includes all researchers working on this critical disease worldwide.**

**You can also stay connected with us on social media for the latest updates and announcements. Follow us on X [@gfra\\_official](https://twitter.com/gfra_official), and LinkedIn: <http://linkedin.com/company/gfracmd>.**

**We extend our sincere thanks to our sponsors, whose support makes our activities possible. Together, we are making meaningful progress in the fight against FMD.**

**Wishing the FMD research community a happy, successful, and fruitful 2025.**

**Warm regards,**

**Dr. Alejandra Capozzo**

**CEO, Global Foot-and-Mouth Disease Research Alliance (GFRA)**

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## 2024-2026

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2024-2026

*continued*

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