

# NEWS

SUMMER 2024



**STAR-IDAZ**  
International Research  
Consortium on Animal Health



## Message from Chair

It is with great pleasure that I have taken over the role of Chairperson of STAR-IDAZ International Research Consortium (IRC) on Animal Health from Hong Yin who stepped down after 5 years in the position. I am Director and Chief Executive of the National Research Institute, Vom, and have been the Executive Committee representative for the Nigerian Animal Health Research Network (NAHRN) since July 2021. NAHRN was already a STAR-IDAZ IRC Partner when I became its Chairperson in 2021, having joined the IRC back in 2017.

Since we first joined there have been many changes within STAR-IDAZ, notably the increase in the number of Partners. The number of Partners now totals 35 and we are delighted that this year the International Development Research Centre (IDRC), Canada has joined, represented by Renée Larocque. There are many plans for STAR-IDAZ IRC this year, and these include increasing Partner numbers and strengthening our regional networks. I look forward to acting as an advocate in Africa and helping to build the IRC membership and the Africa and Middle East Regional

Network. Through collaboration we can speed up research and contribute to both new and improved animal health strategies within the IRC priority diseases. I hope that by the end of the year we will be welcoming new members from all regions, and I urge our current members and interested parties to contact us through the SIRCAH secretariat to discuss potential new partnerships.

The STAR-IDAZ IRC priority diseases remain at the centre of STAR-IDAZ IRC activities and the coming months will undoubtedly bring new focuses and

projects. I look forward to helping direct the future of STAR-IDAZ as its Chair, but I would also like to thank Dr Hong Yin for all the work he has done over the past 5 years. He steered STAR-IDAZ IRC through the difficult COVID years, and despite the difficult times it has moved from strength to strength. Thank you Hong for all your input and dedication!

**Maryam  
Muhammad**  
Chair, Executive  
Committee, IRC



[www.star-idaz.net](http://www.star-idaz.net)

# Message from the outgoing Chair

I am delighted to welcome Maryam Muhammad as the new Chair of STAR-IDAZ IRC. I have been the Chairperson for the past 5 years and it has been a great pleasure to work with the other Executive Committee members as well as the Scientific Committee and the Secretariat (SIRCAH2) during this time. I really appreciate everyone's input into STAR-IDAZ IRC, in particular I would like to thank people for their participation in the recent Executive Committee and Scientific Committee meetings in Sao Paulo; I know that everyone is busy with tight schedules and to attend in-person meetings is a real indication of their commitment. Many of you who couldn't join us in person were able to connect with us online – thank you to you all too, we were delighted you could join us and share your thoughts virtually.

STAR-IDAZ IRC started in 2016, and I have been a member since its inception. At that time there were only around 20 members and it is wonderful to see that there are now 35 and 55 associated countries. Many of the people that I enjoyed working with in the early days have retired or been replaced, but everyone has made valuable contributions. Together I feel sure we can work to improve animal health and with it also human and environmental health. I became Chair in 2019 in meetings held in Beijing and have very much enjoyed my time in the role. A recent highlight was the Tick vaccine workshop that was held before

the recent meetings in Sao Paulo. As a parasitologist myself I have worked on tick vaccines. The workshop was perfect at bringing us up-to-date with the advances that have been made – thank you to the Secretariat and Scientific Committee members Isabel Kinney Ferreira de Miranda Santos and Vish Nene for organising such an interesting event.

One thing I have become very aware of during my time as Chair is the need for funders to collaborate and encouraging this collaboration is an important part of STAR-IDAZ IRC's role. I will continue to work with the IRC and will be actively

engaging in how to make STAR-IDAZ more effective, more powerful and more impactful in helping to combat animal infectious diseases and in fostering research collaboration. I look forward to seeing everyone soon in the next Executive Committee meeting.

I hope you will enjoy your time as Chair, Maryam, I have very much enjoyed mine!

**Hong Yin**  
**Outgoing Chair,**  
**Executive**  
**Committee, IRC**



## Executive Committee

The STAR-IDAZ IRC Executive Committee is made up of representatives from each of the 35 members of the IRC. They oversee the direction of the consortium and agree its activities to facilitate the coordination of research on animal health. The Executive Committee have agreed to coordinate research funding strategies, promote support for STAR-IDAZ IRC objectives, and share information between the members. We would like to welcome the following new Executive Committee members; Dr Karin Artursson (Swedish Veterinary Agency); Dr Debbie Eagles (CSIRO Australian Centre for Disease Preparedness); Dr Karin Troell (Norwegian Veterinary Institute); Dr Jagvinder Dhanda (Canadian Food Inspection Agency); Dr Siboniso Moyo (International Livestock Research Institute); Dr Roxann Motroni (USDA-Agricultural Research Service); Dr Renée Larocque (International Development Research Centre, Canada); Dr Katsuhiko Fukai (National Agriculture and Food Research Organization, Japan).

The IRC Executive Committee meeting was held on 19-20 June 2024 at the Rebouças Convention Centre, São Paulo, Brazil. Dr Hong Yin, Director General of the Lanzhou Veterinary Research Institute and STAR-IDAZ IRC Chairperson, welcomed all participants and opened the meeting and Dr Sibelle de Andrade Silva, Presidential Advisor, Embrapa, provided opening remarks. Prof Wim van der Poel, as STAR-IDAZ Scientific Committee Chair, reported on the Scientific Committee meeting held the previous day

(18 June) with recommendations from the Scientific Committee reported the following day at the closed Executive Committee meeting. The recent activities of the STAR-IDAZ Network were presented and progress discussed, including updates on the Regional Networks and Hein Imberechts gave an update on the European Animal Health and Welfare Research Collaborative Working Group (CWG-AHW). Updates were presented on the active Working Groups: Mycoplasmas and Contagious Bovine Pleuropneumonia (CBPP), Vector Biology and Disease Transmission, Vaccinology, One Health, Helminths, Foot-and-Mouth Disease (FMD), Bovine Tuberculosis, Mastitis, Coronaviruses, Influenza, African Swine Fever (ASF), Antimicrobial resistance (AMR) and Alternatives to Antimicrobials, and Aquatic Diseases. Other topics covered included industry engagement and innovation accelerator workshops, and the new STAR-IDAZ website. A summary was presented on the Executive Committee workshop held the previous day, 18 June 2024, where members discussed how to improve dissemination of results, enlarge the IRC, and facilitate research coordination. Thank you to Professor Isabel Kinney Ferreira de Miranda Santos, University of São Paulo and STAR-IDAZ Scientific Committee, for hosting the STAR-IDAZ meetings in Brazil.

The next STAR-IDAZ Executive Committee meeting will be held by webinar in Autumn 2024.



Members of the Executive Committee, Scientific Committee and Secretariat (SIRACH) in Sao Paulo.

## Scientific Committee

The Scientific Committee met on 18 June 2024 at the Rebouças Convention Centre, São Paulo, Brazil. The meeting was chaired by Prof Wim van der Poel, the Chair of the Scientific Committee. The meeting reviewed the progress of the Working Groups, the required next steps and the development of the research roadmaps. This included activities of the Working Groups for Mycoplasmas and Contagious Bovine Pleuropneumonia (CBPP), Vector Biology and Disease Transmission, Vaccinology, One Health, Helminths, Foot-and-Mouth Disease (FMD), Bovine Tuberculosis, Mastitis, Brucellosis, Coronaviruses, Influenza, African Swine Fever (ASF), Antimicrobial resistance (AMR) and Alternatives to Antimicrobials, and Aquatic Diseases.

The Committee made scientific recommendations to the Executive Committee, which were presented and discussed at the STAR-IDAZ IRC Executive Committee meeting (19-20 June 2024).

The Scientific Committee, Secretariat and wider STAR-IDAZ Network thank Dieter Schillinger (ILRI), who stepped down from the Committee, for his commitment and contributions over the 7 years since it was established. The Scientific Committee welcomes Dr Vish Nene as a new member of the Committee.

The next meeting of the STAR-IDAZ Scientific Committee will be held in October 2024, as a webinar.



Members of the Scientific Committee and Secretariat (SIRCAH) in Sao Paulo.

# Regional Networks

## AMERN; ASIA & Australasia; Americas; European Network

The STAR-IDAZ Regional Networks (for Africa & the Middle East, the Americas, Asia & Australasia, and Europe) facilitate regional cooperation and coordination by identifying common research priorities in the Region, opportunities for sharing resources including access to samples, specialised facilities and expertise, and international or regional funding opportunities.

### Americas Regional Network

The Regional Network for the Americas met on 19 July 2024 by webinar, with participation by representatives from Argentina, Brazil, Canada, Colombia, Mexico, USA, and WOAAH Regional Office. Participants were updated on the recent activities of the STAR-IDAZ Network, before a presentation on US response to Highly Pathogenic Avian Influenza from Dr Roxann Motroni (USDA-ARS). Regional Network members gave country reports, to highlight research focus and challenges in their country followed by discussion of the regional priorities.

### Africa and the Middle East Regional Network

The Africa and Middle East Regional Network will hold its next meeting on 21 August 2024. This Network last met in-person in South Africa in November 2023.

## Asia and Australasia Regional Network

The Asia and Australasia Regional Network met by webinar on 16 July, with representatives of Australia, China, India, Japan, Pakistan, Russia, and the WOAAH Regional Offices participating. There was an overview of the background and structure of STAR-IDAZ IRC and updates of recent meetings of the STAR-IDAZ Committees. Prof Ruth Zadoks provided an update on the Aquatic Diseases Working Group. An overview was given of the upcoming WOAAH Regional Workshop on Zoonotic Tuberculosis and Brucellosis Control in Asia and Pacific. This was followed by country reports from each participant, reporting on the animal health priorities, research and challenges in their organisation and country.

## Europe Network: SCAR Collaborative Working Group on Animal Health and Welfare Research (CWG-AHW)

The SCAR CWG on Animal Health and Welfare Research operates as the STAR-IDAZ Regional Network for Europe. The Network met on 7 December 2023 and 23 May 2024 by webinar, with participation from Greece, Italy, Belgium, France, Netherlands, Poland, Spain, Switzerland, Finland, Lithuania, Austria, Turkey, Hungary, Portugal, UK, Norway, and Germany. At the plenary meeting, there were updates from the subgroups, the ICRAD ERA-Net, DISCONTTOOLS and STAR-IDAZ IRC. The members were also updated on the European Partnership for Animal Health & Welfare (PAHW).



The Americas Regional Network meeting was held by webinar on 19 July - thank you to our members from Argentina, Brazil, Canada, Colombia, Mexico, USA and the WOAAH Regional Office who joined us.

## AMR and ATA

The development of Alternative to Antibiotics (ATA) is crucial in combating antimicrobial resistance (AMR), benefiting both human and animal health. STAR-IDAZ's efforts in research coordination and prioritization on Alternatives to Antimicrobials have been recognised in achieving Objective 5 of the quadripartite strategy: 'Develop the economic case for sustainable investment that considers the needs of all countries and increase investment in new medicines, diagnostic tools, vaccines, and other interventions.' More details are available in the quadripartite biannual report, ["Implementing the Global Action Plan on Antimicrobial Resistance."](#)

Additionally, the Global Leaders Group on Antimicrobial Resistance has made [six recommendations to address the antibiotic pipeline and access crisis](#). These recommendations, comprising both financial and nonfinancial solutions, serve as a foundation for advocacy and action ahead of the High-level Meeting on AMR in September 2024. They also help to transform the recent G20 and G7 commitments on R&D and access into tangible actions, catalysing collective global efforts. Notably, STAR-IDAZ has been referenced as a key network in coordinating global animal health research, with its research priorities outlined by the [ATA research roadmaps](#).

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## bTB

In February 2023, STAR-IDAZ IRC, with the support of UKRI-BBSRC and Defra UK, held a workshop in Birmingham, UK. During the workshop, experts explored the challenges of tackling bTB, with a focus on diagnostics, control strategies, and vaccines. Recognizing the need for economically viable solutions that directly benefit farmers and their families, the group emphasized the importance of a context-specific approach. The workshop participants highlighted the significance of prioritizing ideas that can have a tangible impact within the next 10-15 years. The aim of the workshop was to understand the research and innovation needs for tuberculosis globally; update the existing bTB vaccine roadmap; and develop and validate roadmaps for diagnostic tests and control strategies. Three new roadmaps have now been validated and published on the STAR-IDAZ IRC website, these are the: diagnostic test development roadmap; development of control strategies roadmap; [vaccine development roadmap](#).

## Influenza

STAR-IDAZ partners are working to focus research on [influenza where it is most needed](#). In particular, the increased number of H5N1 [avian influenza cases reported in terrestrial and aquatic animals](#) and the recently reported detection of [highly pathogenic avian influenza \(HPAI\) in dairy cattle in the USA](#), have increased the efforts on HPAI research.

At the last Executive Committee meeting, Wim van der Poel, chair of the Scientific Committee, reported on the current epidemiological situation on HPAI in cattle and some research findings. STAR-IDAZ partners agreed to exchange information on their in-country activities to boost research efforts on influenza in cattle avoiding duplication of research.

Additionally, during the Americas Regional Network meeting, USDA provided an in-depth presentation on a long list of research efforts led by USDA ARS and APHIS and carried out by the NADC Animal Resources Unit & High Containment team, Iowa State University VDPAM advisors, NADC and NVSL technical staff, and USNPRC. The main results were shared transparently with the scientific community, demonstrating the strong commitment for better control of disease outbreaks and secure public health. Some of the research results of our partners are shared below.

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## One Health

The STAR-IDAZ IRC's One Health Working Group, in partnership with GloPID-R (Global Research Collaboration for Infectious Disease Preparedness), continues to make significant progress. This global alliance aims to make recommendations for research funding organisations to better align their funding strategies to integrate the One Health approach more widely. The working group has produced a report titled 'Mapping One Health: An Exploration of the Global Funding Landscape for One Health Research'. This report, which compiles expert opinions and recommendations from a workshop and survey conducted by the group members, has been recently circulated to STAR-IDAZ members for review and will be published on the website shortly. Additionally, an abstract from the report has been accepted for presentation at the 8th World One Health Congress in Cape Town this September. If you are attending the conference, please get in touch with us, we are eager to meet fellow attendees and discuss how we can help maximise the impact of One Health research funding.

# Mycoplasmas

Following on from the work on contagious bovine pleuropneumonia (CBPP) in 2023 which saw the publication of the [2023 Veterinary Mycoplasmas Research Report](#) and [The Report of the Gap Analysis Meeting for CBPP](#), a follow-up workshop was held in Frankfurt in April 2024. One of the gaps identified in the June 2023 CBPP gap analysis workshop was ‘the need to reach definitions of acceptable efficacy and protection for CBPP, that are sufficient to enable other control methods to have an impact’. The Frankfurt meeting, funded by the International Livestock Research Institute (ILRI) and the United States Department of Agriculture Agricultural Research Service (USDA-ARS) aimed to discuss better ways of defining protection against CBPP. A report of the workshop will be produced with the aim of suggesting new parameters for researchers and policy makers.

Mycoplasmas are a STAR-IDAZ IRC priority disease and cause a number of diseases that represent a major global threat to animal welfare and food security; this is most keenly felt by small producers in low-resource settings, who have a real and immediate sense of economic loss and food (in)security on the onset of illness within their herd. A Mycoplasmas Working Group will be formed in the latter half of 2024 led by Scientific Committee member Vish Nene.

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## ASF

African Swine Fever (ASF) continues to pose a significant threat to global animal health within the swine sector, as can be noted from the epidemiological report of the [World Organisation for Animal Health \(WOAH\) on the status of countries affected by ASF](#).

The research community is making significant progress towards developing a safe and effective vaccine to control this transboundary disease. Some countries have recently approved field trials for modified live vaccines against ASF genotype II. In addition to further research to develop additional vaccines, the research community continues to monitor and discuss the necessary vaccination strategies required to ensure the safe and effective use of these vaccines. In this regard, a group of experts is working on drafting minimum standards for vaccines, which will help revise the current [WOAH chapter on ASF in the Terrestrial Manual](#).

The next Global African Swine Fever Research Alliance (GARA) meeting is scheduled to take place in Rome at the FAO Headquarters 12-14 November 2024. This meeting will provide an important platform for sharing the latest research findings and discussing future directions in ASF research.

For more information, please visit [the GARA website](#).

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## FMD

As highlighted in the Winter Newsletter, STAR-IDAZ IRC hosted a workshop in Uganda in November 2023, in collaboration with the Global Foot-and-Mouth Disease Research Alliance (GFRA). As a result of this workshop and insights from the 2022 GFRA gap analysis meeting held in Argentina, there has been a comprehensive update to the



Participants of the CBPP workshop held in Frankfurt.

STAR-IDAZ IRC roadmaps for Foot-and-Mouth Disease (FMD). Three updated FMD roadmaps covering diagnostics, vaccines, and control strategies are available on [the STAR-IDAZ website](#).

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## Coronavirus

We are happy to announce a series of workshops aimed at finalizing research roadmaps for animal coronaviruses. These efforts are a continuation of our ongoing activities, building on the insights gained from our recent [gap analysis workshop](#) held in collaboration with UK-ICN in May 2023, back-to-back with the International Conference on Livestock, Companion Animals and Wildlife.

The upcoming workshops, organized with the support of Linfa Wang and Wim van der Poel from the STAR-IDAZ Scientific Committee, along with Dalan Bailey from the UK-ICN network, will focus on three critical areas:

1. Control Strategies Development
2. Vaccine Development
3. Diagnostic Tools Development

Each workshop will facilitate in-depth discussions among small groups of 10-15 international experts. The workshops will be conducted online, scheduled to take place between the last week of September and the first week of October. We look forward to the valuable contributions and insights that will emerge from these discussions, driving us closer to advancing research for effective strategies and solutions in the fight against coronaviruses.

Stay tuned for further updates on the outcomes of these workshops and STAR-IDAZ's continued efforts in coronavirus research.

## Helminths



The Livestock Helminth Research Alliance (LiHRA) coordinates the Helminth WG activities of the IRC. **Helminth research roadmaps** were published in 2019 and the process of updating these roadmaps will be discussed during the 10th Annual LiHRA meeting, which will be held 22-23 October in Cordoba, Spain. Furthermore, LiHRA has announced two new networking projects where interested international partners can join according to the respective project rules:

- **SPARC – Sustainable PARAsite Control**, is an EU thematic network aiming to build a multistakeholder Community of Practice to sustainable control worm infections in ruminants.
- **ENVIRANT** – is a new COST Action that will be launched in October 2024 that will study the environmental impact of anthelmintics in livestock, and alternatives to minimize their use. People are invited to express their interest to join any of the working groups via [the link](#).

## Mastitis



STAR-IDAZ will hold its first Gap Analysis workshop on Mastitis during the National Mastitis Council Regional Meeting in Ghent on 14 August 2024. An exciting **programme** has been established, featuring leading scientists in the field. The aim of the workshop, falling under the conference's concept of a 'short course', is to establish an international Working Group developing research roadmaps for next generation solutions in bovine mastitis control, with a focus on vaccines and alternatives to antibiotics. Registration for this workshop via the conference [link](#) is still possible until 5 August.

## VTC: Shaping the Future of Livestock Tick Vaccines

Alongside the Executive and Scientific Committee meetings in São Paulo, a **workshop** was organised to support discussions on standardising tick vaccine trials and the development of a scientific target product profile. The meeting was chaired by Prof. Isabel Kinney Ferreira de Miranda Santos (University of São Paulo) and Prof. Vish Nene (ILRI, WSU). Eminent speakers presented on the state of tick vaccine research, the STAR-IDAZ roadmaps on vector transmission control, challenges for vaccine standardisation and integrated control. Dr. Menchaca (PROCISUR) stressed that cattle ticks and tick-borne diseases can be considered as the biggest animal health issue for South America.

Presentations on Zoetis' Bm86 Immunomodulator against *R. microplus* and genetic control approaches by Oxitec Ltd. gained a lot of interest and showed that it is possible to develop vaccine and genetic based solutions for cattle tick control. New results on trial standardisation were shared by Maxime Madder (Clinglobal). The meeting initiated interesting contacts and discussion points and several points were taken up in recommendations for the STAR-IDAZ Executive Committee.



# SIRCAH News

The EU and UKRI-funded Secretariat (SIRCAH2, Support for the International Consortium on Animal Health), which provides support for all STAR-IDAZ IRC activities, has been busy during the first half of 2024. The activities of the active Working Groups described above and the organisation of the in-person meeting in Sao Paulo have kept the Secretariat busy!

Dr Hong Yin has been the Chairperson of STAR-IDAZ IRC for the past 5 years, and it is now time for him to step down. SIRCAH would like to congratulate him on his term as Chair and thank him for his unwavering commitment to the Executive Committee and the whole STAR-IDAZ Network. In his term as Chairperson, we have gone through a global pandemic as well as the outbreaks and unprecedented spread of African Swine Fever, Lumpy Skin Disease and avian influenza. The need for global coordination of research effort, and thus the need for STAR-IDAZ, has never been clearer than over the past 5 years. The securing of additional funding from the European Commission to support STAR-IDAZ IRC, through the Secretariat, further reinforced this importance. Following his election as deputy Chairperson in Beijing, travel restrictions limited the number of in-person meetings possible but we successfully convened 13 meetings over the 5 years. More recently, we have begun to move back to in-person meetings and Dr Yin chaired meetings in Nairobi, Kenya in June 2023 and São Paulo, Brazil in June 2024. Members of the Secretariat have very much enjoyed working with Dr Yin as Chairperson and we all look forward to continuing to work with him as a member of the Executive Committee and as part of the Regional Network of Asia and Australasia.

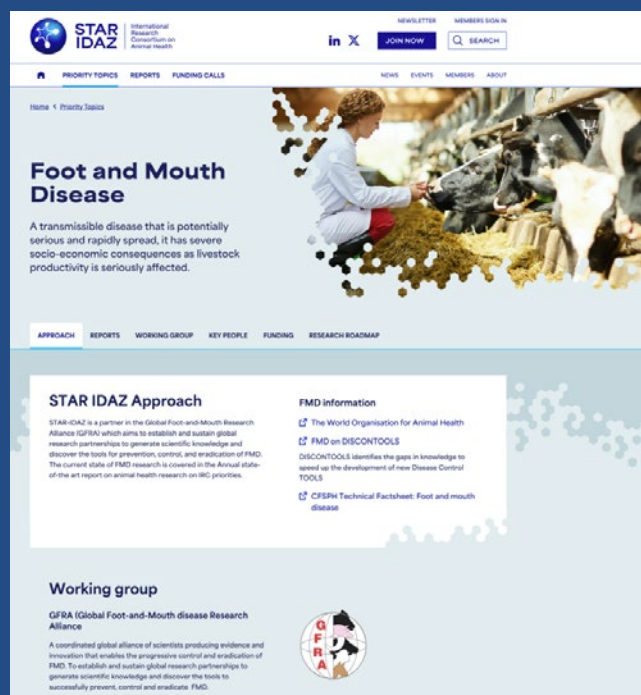
SIRCAH are delighted to welcome Maryam Muhammad as the new Chairperson for STAR-IDAZ IRC. We look forward to working with Maryam over the coming years.

In the Winter 2023 Newsletter we revealed our plans to update the STAR-IDAZ IRC website ([www.star-idaz.net](http://www.star-idaz.net)) with the appointment of an IT company. This will ensure functionality of the roadmap and enable the scientific community as well as funders to make full use of the information captured by the roadmaps. The new website will also help to improve engagement with new features like a Join Now page, as well as generally strengthening our STAR-IDAZ brand. The first phase of the website is due to launch in August, while the later phases, which includes roadmaps, member access and AI functionality, will come shortly after. As part of the website redesign the logo has

also been updated. This is not an entirely new logo as we believe the old logo still represents STAR-IDAZ well, but it uses a brighter more impactful blue, which will help it to stand out alongside other visual identities. Increasing awareness of STAR-IDAZ IRC remains an important part of SIRCAH activities. In early 2024 we produced a video that introduces the STAR-IDAZ IRC to people who are unaware of the important work it does. The video, which can be **accessed via the website**, encourages people to connect with the IRC through SIRCAH – while the number of STAR-IDAZ IRC Partners has increased, we always aim to engage with further possible partners and welcome discussion with all interested parties.

SIRCAH2 is coordinated by Kreavet, with Defra, WOA, CABI, and UKRI-BBSRC as partners. We have three new Secretariat members – Katie Gordon from Defra, and Monse Roman Lara has replaced Nicki Mackie at BBSRC. Eleanor Raj who will be with Defra until the end of March 2025 will also lend her expertise to the Secretariat.

The Secretariat would like to thank all members and participants for their support and commitment to STAR-IDAZ IRC and looks forward to working with you over the coming years.



The screenshot shows the STAR-IDAZ website interface. At the top, there is a navigation bar with the STAR-IDAZ logo, a search bar, and links for 'NEWSLETTER' and 'MEMBERS SIGN IN'. Below the navigation bar, there are tabs for 'PRIORITY TOPICS', 'REPORTS', and 'FUNDING CALLS'. The main content area features a large image of a person in a white lab coat working with livestock, and a section titled 'Foot and Mouth Disease' with a brief description. Below this, there are sections for 'STAR IDAZ Approach', 'FMD information', and 'Working group'.

**STAR IDAZ Approach**  
STAR-IDAZ is a partner in the Global Foot-and-Mouth Research Alliance (GFRA) which aims to establish and sustain global research partnerships to generate scientific knowledge and discover the tools for prevention, control, and eradication of FMD. The current state of FMD research is covered in the Annual state-of-the-art report on animal health research on IBC priorities.

**FMD information**  
The World Organisation for Animal Health  
FMD on DISCONTOLS  
DISCONTOLS identifies the gaps in knowledge to spread as the development of new Disease Control TOOLS.  
CFSPH Technical Factsheet: Foot and mouth disease

**Working group**  
GFRA (Global Foot-and-Mouth disease Research Alliance)  
A coordinated global alliance of scientists producing evidence and innovation that enables the progressive control and eradication of FMD. To establish and sustain global research partnerships to generate scientific knowledge and discover the tools to successfully prevent, control and eradicate FMD.



# News From our members

In 2024 STAR-IDAZ IRC welcomed another new Partner, bringing the total number of partners to 35. The International Development Research Centre (IDRC), Canada will be represented by Renée Larocque.

STAR-IDAZ participated in the inaugural edition of the Discovery to Innovation in Animal Health conference (6-8 February, Ghent). By contributing to networking and matchmaking between researchers and industry, familiarizing researchers to the industrial innovation process, IP and regulatory frameworks and learning entrepreneurial research to pitch their technology to industry, we accelerate innovation in animal health. We sponsored two presentations on emerging technologies on a STAR-IDAZ priority topic. Paul Hodgson (VIDO, Canada) presented a novel, patented vaccine for control of Contagious Bovine Pleuropneumonia (CBPP) in cattle. It is the first patented vaccine for the control of CBPP that is safer, more stable and does not impede the

use of antibiotics after vaccination. It could present a major step in the control on one of the highest priority diseases of sub-Saharan Africa. The second pitch was delivered by Sanjay Vashee (J. Craig Venter Institute, USA) on reverse genetic approaches to engineer African swine fever virus and accelerate vaccine development. The approaches significantly reduce the time needed to generate multiple vaccine candidates. Moreover, a vaccine candidate was presented that shows 100% protection with a very favourable safety profile that is ready for the late discovery phase for addressing regulatory requirements. The candidate, based on genotype IX virus is suitable as a vaccine for East Africa. Moreover, the gene deletion in question can be transferred to a genotype II virus, to make a vaccine for Europe and Asia. Congratulations to both speakers and hopefully these technologies will find their way to the market. STAR-IDAZ will continue to support similar innovation accelerator activities in the future.

## DISCONTTOOLS news

DISCONTTOOLS has published new Disease and Product Analyses, gap analysis and prioritisation scores for following diseases. Check out the new information!

- [Classical Swine Fever](#)
- [West Nile Virus](#)
- [Avian Chlamydiosis](#)
- [Bovine Respiratory Syncytial Virus](#)



Dr. Sylvie Lecollinet (CIRAD) gave a [presentation](#) on the gaps for West Nile Virus, while DISCONTTOOLS manager Johannes Charlier gave an overview presentation on research needs for emerging diseases in general during the 9th Animal Health Seminar in Belgium. For the future, DISCONTTOOLS is activating work on a.o. Theileria, Echinococcus, PRRS and African Horse Sickness. [Contact](#) the project manager if you are interested in contributing.

## Diagnostics for animals

[Diagnostics for animals](#) (D4A) is a global federation representing 23 manufacturers of animal health diagnostics operating under ISO certification. D4A has been a member of STAR-IDAZ from the start.

D4A propose an [open database](#) (+/-) 3000 animal health diagnostics. It is possible to look for a kit using different methods: keyword, producer, disease, target species or by an overview of a [mapping](#) of diagnostics by diseases.



The database has been recently updated with a higher level of reliability.

Your comments are welcome to improve this unique research tool.

# USDA Advances Research on Highly Pathogenic Avian Influenza in Cattle

The United States Department of Agriculture (USDA) has made significant strides in understanding and combating HPAI in cattle. With the increasing number of HPAI cases reported across various species, these research efforts are crucial for mitigating the disease's impact on livestock and public health. Here are some key progress highlights:

## Surveillance of HPAIV

The USDA has implemented extensive surveillance measures to monitor HPAI outbreaks. This ongoing effort is critical for early detection and rapid response to HPAI cases in livestock, helping to contain the spread of the virus. HPAI confirmed cases in livestock herds can be found here: <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/hpai-confirmed-cases-livestock>

## Genomic Analysis and Epidemiological Investigation

In-depth genomic analysis and epidemiological investigations have revealed that a reassortment event in wild bird populations preceded a single spillover event from wild birds into cattle. This discovery underscores the importance of monitoring wildlife as a reservoir for potential outbreaks in livestock. For more details, refer to this study: <https://www.biorxiv.org/content/10.1101/2024.05.01.591751v1>

## Characterization of Milk Products from 17 States

Milk products from 17 states have been characterised to assess the presence and impact of HPAI. This comprehensive analysis helps ensure the safety of dairy products and informs strategies to prevent contamination: <https://journals.asm.org/doi/10.1128/jvi.00881-24>

## Bulk Milk Testing

Researchers have conducted bulk milk testing to detect HPAI. A pre-print detailing the methodology and findings of inactivation of HPAI with high-temperature short-time pasteurization and virus detection in bulk milk tanks is available: <https://www.medrxiv.org/content/10.1101/2024.07.01.24309766v1>

## HPAIV in Cooked Hamburger

Studies have investigated the inactivation of HPAI in cooked hamburger patties. Results indicate that cooking on a commercial open-flame gas grill effectively inactivates the virus, more details can be found: <https://www.sciencedirect.com/science/article/pii/S0362028X24001091>

## Cattle Pilot Studies

Pilot studies have been conducted to understand the infection routes of HPAI in cattle. A pre-print on the experimental reproduction of viral replication and disease in dairy calves and lactating cows inoculated with HPAI H5N1 clade 2.3.4.4b by aerosol and intramammary routes is available: <https://www.biorxiv.org/content/10.1101/2024.07.12.603337v1>

These research efforts, led by USDA ARS along with USDA APHIS, with contributions from Iowa State University demonstrate a robust commitment to controlling HPAI outbreaks and ensuring the safety of the food supply.

# Global Efforts in Research and Surveillance on HPAI in Cattle

In addition to USA (see above), various countries have intensified their surveillance and research efforts to mitigate the impact of HPAI in cattle. Here's a roundup of some recent progress in different parts of the world reported from our partners and the CWG AHW, acting as STAR-IDAZ European Regional Network:

## Canada: Effective Pasteurization of Milk

The Canadian Food Inspection Agency (CFIA) laboratories, under the leadership of Health Canada, conducted a study on the effectiveness of pasteurization in inactivating the HPAI virus in milk, confirming that pasteurization effectively inactivates the HPAI virus. The treatments tested were designed to simulate those used by the Canadian dairy industry and demonstrated efficacy even against high concentrations of the virus in raw milk. These findings align with other global research conducted in 2024 and reassure that the milk supply remains safe. More details on HPAI research priorities can be found: <https://inspection.canada.ca/en/animal-health/terrestrial-animals/diseases/reportable/avian-influenza/latest-bird-flu-situation/hpai-livestock/milk-sampling-and-testing>.

## Germany: Infection Studies and Disease Symptoms

The Friedrich-Loeffler-Institut (FLI), in Germany has conducted infection studies within the KAPPA flu project, funded by the EC, to understand the susceptibility of dairy cows to HPAIV H5N1. Preliminary results indicate that both a US isolate and a current H5N1 virus from a wild bird in Germany can multiply in the mammary gland of dairy cows, causing clear disease symptoms. For more information, visit FLI's report: <https://www.fli.de/en/news/short-messages/short-message/geflugelpest-keine-hinweise-auf-h5n1-infektionen-bei-milchkuehen-ausserhalb-der-usa>.

## Israel: Monitoring and Testing of Raw Milk

In Israel, the Kimron Veterinary Institute (KVI) is testing raw milk from farms using qPCR. KVI has also submitted two research proposals focused on monitoring the HPAI virus in milk and blood and conducting serologic monitoring. These efforts aim to establish robust surveillance systems to detect and manage HPAI in the dairy industry.

## Italy: Serological Surveillance and Screening Optimization

In Italy, the Ministry of Health and the Istituto Zooprofilattico Sperimentale delle Venezie (IZSVE) are optimizing serological methods for screening antibodies against HPAI viruses of the H5 subtype in dairy cattle and other ruminants. This ongoing effort includes analytical and diagnostic comparisons of in-house assays and commercially available ELISA kits as part of the KAPPA flu project, funded by the EC. Additionally, IZSVE is conducting retrospective serological surveillance on over 80 farms in high-risk areas of northeastern Italy, providing critical data to assess the risk of HPAI in dairy cattle. Learn more about their testing programmes: <https://www.izsvenezie.com/avian-influenza-testing-programs-cattle-raw-milk-underway>.

## Nigeria: Serological surveillance in cattle

The National Veterinary Research Institute, Vom Nigeria screened milk samples for influenza A matrix gene. All samples were negative. Previously, 231 sera samples collected in cattle slaughter slabs from 2022-2023 in 3 States were screened by ELISA. One sample was positive for influenza A. Vom propose monitoring dairy farms, live cattle/ruminant markets and abattoir for influenza generally and H5 in particular.

## Sweden: Examine marine mammals and wildlife

The Swedish Veterinary Agency is monitoring by PCR and serology marine mammals, red foxes and mustelids from areas where avian influenza has been detected in wild birds. Wild animals tested positive for HPAI are examined by histologic and immunochemistry essays to increase knowledge of disease-causing property of the virus. More information here: <https://www.sva.se/en/what-we-do/research-at-sva/research-projects-at-sva/foka/avian-influenza-in-mammals>.

## Switzerland: Comparative Virus Stability Research

The Institute of Virology and Immunology (IVI) in Switzerland is comparing different H5N1 isolates in cell and tissue cultures of various species, including cattle. Additionally, IVI is researching the stability of influenza viruses in raw milk products such as yogurt and cheeses.

## The Netherland: surveillance and replication studies

Wageningen Bioveterinary Research (WBVR) is advancing diagnostics with milk as a matrix for PCR, VNT and NP-ELISA to monitor and screen for the presence of virus and specific  $\alpha$ -H5N1 antibodies. Additionally, WBVR also investigated the replication of the European H5N1 strains in differentiated bovine airway epithelial cells using air-liquid interface (ALI) ex-vivo technics, their findings can be found here [<https://www.microbiologyresearch.org/content/journal/jgv/10.1099/jgv.0.002007>] Further investigation will be carried with strains circulating in the USA on these ALI-cultures. Moreover, monitoring of wildlife (cattle, horses, deer) for antibodies against the H5N1 are currently ongoing and a retrospective seroprevalence study in cattle by commercial NP blocking ELISA, using archived serum samples from ruminants throughout the country sampled in 2022, 2023 and 2024, is conducted by the Royal GD.

## UK: In vitro work on mammalian cell lines

Defra and UKKRI are funding research at the Pirbright Institute and the Imperial College, London for in vitro work on mammalian cell lines, including bovine mammary gland cell lines. Using both the US strain (B3.13) and Eurasian strains (AIV48), receptor binding, cell fusion, polymerase activity and other characteristics will be investigated with cDNA and reverse genetics. High containment studies will look at antigenicity and potential for airborne transmission as well as spread to other livestock species.

These initiatives reflect a collaborative global effort to address the challenges posed by HPAI. By sharing research findings and methodologies, countries are better equipped to implement effective measures to protect livestock and ensure the safety of dairy products.

For ongoing updates and detailed results from these research efforts, visit the respective links provided.

# IRC Members

The complete list of members is:

1. Danish National Veterinary Institute (DTU Vet), Denmark
2. National Institute of Agricultural Research (INRA), France
3. French Agency for Food, Environmental and Occupational Health & Safety (ANSES), France
4. Ministry of Health, Italy
5. Ministry of Agriculture, Nature and Food Quality, The Netherlands
6. National Institute for Agriculture and Food Research and Technology (INIA), Spain
7. Department for the Environment, Food and Rural Affairs (Defra), UK
8. Biotechnology and Biological Science Research Council (BBSRC), UK
9. Regional Consortium; Universiteit Gent (Ghent University), Université de Liège, the Federal Public Service Health, Food Chain Safety and Environment (unit Contractual Research) and Sciensano
10. Kimron Veterinary Institute, Israel
11. International Livestock Research Institute (ILRI), Kenya
12. Tanzania Veterinary Laboratory Agency (TVLA), Tanzania
13. National Institute of Animal Health, National Agriculture and Food Research Organisation (NIAH), Japan
14. Agriculture Research Services, United States Department of Agriculture (USDA ARS), USA
15. National Institute of Agriculture Technology (INTA), Argentina
16. Ministry of Science, Technology and Productive Innovation (MINCYT), Argentina
17. Canadian Food Inspection Agency (CFIA), Canada
18. Zoetis
19. WOA (World Organisation for Animal Health)
20. Bill and Melinda Gates Foundation (BMGF)
21. HealthforAnimals (Global Animal Medicines Association)
22. Diagnostics for Animals (Manufacturers of Animal Health Diagnostics)
23. European Commission
24. Regional Consortium; Nigerian Animal Health Research Network led by National Veterinary Research Institute Vom
25. National Advisory Council on Animal Health (CONASA) and the National Autonomous University of Mexico (UNAM), Faculty of Veterinary Medicine and Zootechnics (FVMZ)
26. Australian Centre for Disease Preparedness, CSIRO, Australia
27. Lanzhou Veterinary Research Institute (LVRI), China
28. Swedish Veterinary Agency (SVA)
29. National Institute of Food and Agriculture (NIFA), USA
30. Norwegian Veterinary Institute (NVI), Norway
31. Kenya Agricultural & Livestock Research Organisation (KALRO)
32. The National Agricultural Research Organisation (NARO), Uganda
33. The Office National for the Sanitary Safety of Food Products (ONSSA), Morocco
34. Regional Consortium; Swiss Regional Consortium (Swiss Federal Office for Food Safety and Veterinary Affairs and the Institute of Virology and Immunology)
35. International Development Research Centre (IDRC), Canada

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## Further Information

For further information about the IRC please visit [www.star-idaz.net](http://www.star-idaz.net). Research funding organisations and programme owners interested in joining the IRC or researchers interested in joining the working groups should contact the STAR-IDAZ IRC Project Office:

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