



SAAVT 2026 CONGRESS

United in Veterinary Excellence

30 September - 01 October 2026 | Krystal Beach Hotel, Gordon's Bay

PROGRAMME & ABSTRACT GUIDE



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About the SAAVT

A brief history of SAAVT

1969 Back in 1969 a group of laboratory analysts employed at what is now known as the Onderstepoort Veterinary Institute got together and established the South African Association of Veterinary Technologists (SAAVT). The SAAVT was determined to set a formalized study course for specific training of veterinary technologists to adequately prepare analysts for the demands placed on them within a South African context. Many hours spent in the development of a course and discussion with industry partners culminated in the graduation of the first group of Veterinary Technology students at the end of 1975 at the then Pretoria College for Advanced Technical Education making this the oldest formal veterinary paraprofessional qualification in South Africa.

1974 In 1974 the SAAVT formed its first ad hoc training committee through which to engage the training institution to make suggested changes to the curriculum to ensure continued high standards of education. Since then, the Association remained one of the major stakeholders making continued input regarding changes and improvements to the curriculum. From 2020 it will become a formal 4-year B-degree course.

1976/77 The 1976/77 annual report of the SAAVT makes mention of the fact that the probability to have veterinary technologists registered with a professional council should be investigated. At that time only medical nurses, pharmacists, medical technologists, medical doctors, and veterinarians had to be registered with a professional body in South Africa. About 10 years passed before veterinary technologists were officially recognized for registration and to date the SAAVT is the only professional body representing the interests of the Veterinary Technology profession in South Africa at the South African Veterinary Council.

In South Africa, Veterinary technology can be defined as a branch of veterinary science that has as its goal the application of technology and laboratory techniques to analyse a diverse set of samples of animal origin to assist with the diagnosis, prevention, control, treatment, and rehabilitation of illness and disease in animals.

The profession of Veterinary Technologist as it is currently applied in South Africa is unique in the world. Veterinary Technologists are purpose trained to perform laboratory work in veterinary diagnostic laboratories, veterinary research facilities, and even veterinary vaccine production in disciplines such as Virology, Bacteriology, Serology, Biochemistry (Chemical pathology), Histopathology, Parasitology, and Molecular biology.

The SAAVT's mission is to promote excellence in the Veterinary Technology Profession.

<https://www.saavt.co.za/history>

SAAVT Ethical Code

1. The Veterinary technologist plays an important and fundamental role in the veterinary sciences. This encompasses the execution of laboratory techniques and procedures related to veterinary research, vaccine production, diagnostic services, and the promotion of animal health in general.
2. The Veterinary technologist must, at all times, maintain the highest standards during the execution of his/her appointed tasks so that the acquired results are trustworthy.
3. The Veterinary technologist must not only be well trained theoretically and practically to conduct his/her task but also maintain this knowledge at a constantly high level.
4. The Veterinary technologist must see and keep confidential information as such.
5. The Veterinary technologist must respect the limits and responsibilities of his/her professional services and operate strictly within these limits.
6. The Veterinary technologist must conduct assignments judiciously and loyally without using unethical practices.
7. The Veterinary technologist must report unethical conduct and incompetence of fellow technologists to his/her employer firstly and to the professional council secondly.
8. The Veterinary technologist will expose experimental animals to a minimum of pain and discomfort and treat such animals with deference.
9. The Veterinary technologist will not allow himself/herself to be used in advertisements or product promotion of any form of self-advertisement.
10. The Veterinary technologist upholds close cooperation and a harmonious relationship with colleagues and members of other professions.
11. The Veterinary technologist must behave in a manner which does not discredit his/her own profession nor any other veterinary profession.
12. The Veterinary technologist must assume joint responsibility along with local and other professions for the health of the community at local, national and international levels.
13. The Veterinary technologist must acquaint himself/herself with the content of laws pertaining to the veterinary profession in so far as these concern his/her labors.

<https://www.saavt.co.za/ethical-code/>

SAAVT CMC Management Team

 Dr Itumeleng Matle SAAVT Chairperson <i>Executive Board Member of the World Association of Veterinary Laboratory Diagnosticians (WAVLD)</i>	 Ms Nomkhosi Mathebula SAAVT Vice Chairperson	 Mr Jabulani Magagula SAAVT Treasurer <i>SAAVT Representative to SA VPP Structure (SAFPVA)</i>	 Mr Sphamandla Qwabe SAAVT Secretary
 Ms Obakeng Boshielo Deputy Secretary	 Ms Nomsa Letsoalo SAAVT Educational Representative TUT	 Ms Germishys Molaba SAAVT Student Representative TUT Research, Entrepreneurship and Innovation <i>SAAVT CMC Additional Member</i>	 Mr Leften Mokami SAAVT SAVC Representative

Welcome note from the SAAVT Chairperson



Dear Attendees,

It is my great pleasure and privilege to welcome you to the SAAVT 2026 Congress, taking place at the beautiful Krystal Beach Hotel in Gordon's Bay, Western Cape.

On behalf of SAAVT, I would like to extend my sincere gratitude to the Local Organising Committee for their dedication, commitment, and hard work in bringing this congress together. The time and effort invested behind the scenes are invaluable, and we thank you for helping to create an event that promises to be both meaningful and memorable for all our participants.

This year, we have curated a diverse and engaging programme featuring insightful presentations, thought-provoking discussions, and poster contributions, providing opportunities to explore the latest developments and advancements in veterinary technology. We are delighted to have you join us for what promises to be an inspiring and enriching congress for veterinary technologists and professionals across our field.

Our theme this year, ***"United in Veterinary Excellence,"*** reflects the importance of collaboration, professional development, knowledge-sharing, and our collective commitment to advancing veterinary technology. By working together and learning from one another, we strengthen not only our profession but also the contribution we make to animal health and the broader veterinary and healthcare sectors.

As we gather together, I encourage you to take full advantage of this opportunity to connect with colleagues, exchange ideas, share experiences, and build new professional relationships. It is through these connections and collaborations that we continue to grow, innovate, and inspire one another to push the boundaries of excellence in our profession.

Your participation is what makes this congress truly special, and I trust that you will enjoy the programme, the camaraderie, and the opportunity to spend time with like-minded colleagues who share your passion for veterinary technology.

Thank you for being part of this important gathering and for your continued commitment to our profession. Let us make the most of our time together, embrace new opportunities, forge lasting collaborations, and inspire one another to shape the future of veterinary technology.

Enjoy the congress and take some time to appreciate the wonderful setting of Gordon's Bay and the beautiful Western Cape!

I wish you all a successful, inspiring, and memorable SAAVT 2026 Congress.

Welcome, and enjoy the congress!

Best wishes,



Dr Itumeleng Matle

Chairperson, South African Association of Veterinary Technologists

With appreciation to our sponsors



The ARC-Onderstepoort Veterinary Research Campus (ARC-OVR) has long tradition of veterinary research since its founding in 1908 by Sir Arnold Theiler. It is nationally and internationally recognized as a veterinary centre of excellence. The ARC-OVR is a flagship Campus of the Agricultural Research Council and plays an important role in maintaining the health of our national herd and wildlife. The mission of ARC-OVR is to provide scientific support for Veterinary Services in effective risk management for quality of life for all in South Africa. The ARC-OVR strives to deliver world-class veterinary research in providing scientific support. Research activities focus on the development and improvement of vaccines and diagnostic tests, applying the latest molecular biological techniques. ARC-OVR promotes animal health and welfare by providing an effective and efficient diagnostic service and producing vaccines against Foot and mouth and tick-borne diseases. ARC-OVR is the collaborating centre for both the Office International des Epizooties (OIE) surveillance and control of animal diseases in Africa and the Food and Agriculture Organisation (FAO) of the United Nations for the emergency preparedness for transboundary animal diseases for Africa.

Find us at:

enquiry@arc.agric.za | <https://www.arc.agric.za>



AFMS International is a specialist African company with 40 years of experience in the design, construction, commissioning, validation and maintenance of controlled environments and high-containment laboratory facilities. Operating across 47 African countries and 57 countries worldwide, AFMS delivers turnkey solutions for the human health, veterinary, pharmaceutical, research and life-sciences sectors.

Our capabilities include BSL-2 and BSL-3 laboratories, modular and containerised laboratories, cleanrooms, isolation facilities, specialised HVAC and critical airflow systems, laboratory furniture, containment equipment and building management systems. AFMS places particular emphasis on sustainable laboratory infrastructure - designing facilities that are practical to operate, maintain and support within their local environments. Through lifecycle planning, preventative maintenance, locally available technical support, operator training and appropriate spare-parts strategies, we help clients protect their investment and maintain safe, reliable laboratory operations over the long term.

Find us at:

www.afms.bz



Celtic Molecular Diagnostics (Pty) Ltd is a privately held South African biotechnology company based in Cape Town. Founded in 2003, it serves the molecular diagnostics and life sciences research sector, supplying laboratories throughout South Africa and Southern Africa. The company provides high-quality, innovative, and cost-effective solutions for research and diagnostic laboratories.

Its portfolio includes molecular biology applications such as PCR, qPCR, nucleic acid extraction, next-generation sequencing (NGS), cell culture, protein analysis, and microscopy. Celtic has built a strong presence in the diagnostics sector, serving private pathology and public sector laboratories, including the National Health Laboratory Service. This broad engagement positions the company as a trusted partner in both clinical and research settings, supporting key diagnostic and public health initiatives. Through partnerships with leading international manufacturers, the company distributes advanced reagents, kits, and instrumentation, ensuring local access to globally recognised technologies. Celtic has also developed its own product range, offering reliable and affordable PCR and qPCR solutions tailored to the regional market. A key differentiator is the company's customer-focused support model, with experienced product specialists providing technical expertise and application guidance. Led by Managing Director Dermot Cox, the company continues to strengthen its position as a leading supplier of molecular diagnostic reagents and instrumentation in Southern Africa, supporting both research and clinical diagnostics.

Find us at:

www.celticdiagnostics.com



Chemetrix, and in its predecessor companies, has been a supplier of Hewlett-Packard and Agilent Technologies' Analytical instrumentation for over 45 years and has taken with it the legacy and values of the Hewlett-Packard and Agilent Technologies companies on its journey. Chemetrix prides itself on its expertise, dedicated services and uncompromising integrity. Chemetrix, together with Agilent's and other partners' market leading support and resources, regards you as a collaborative partner, working with you to address your analytical measurement challenges emphasising the provision of solutions to your needs from sample preparation to data interpretation and management. Chemetrix has a team of 72 dedicated employees, 63 of whom are highly qualified to provide technical sales, support and application expertise with tertiary qualifications in the natural, life and applied sciences. Chemetrix has four branches located in Midrand, Cape Town, Durban and Nairobi. Chemetrix is playing its part in the transformation in South Africa and is committed to making a difference with its Socio-Economic Development, Skills Development and Enterprise and Supplier Development contributions to BBBEE in South Africa.

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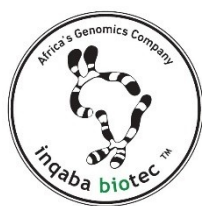
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IDEXX IDEXX Livestock, Poultry and Dairy Diagnostics With over 40 years' experience, IDEXX stands as a global frontrunner in veterinary diagnostics, software, and water microbiology testing. With an extensive range of diagnostic tests, instrumentation, and software solutions, IDEXX caters to veterinary professionals and livestock producers across more than 175 countries as well as providing tests that ensure safe drinking water and other water supplies for more than 2.5 billion people in over 100 countries. Founded on poultry diagnostics, IDEXX remains committed to this industry with a comprehensive portfolio of highly accurate ELISA and RT-PCR diagnostic tests for vaccine monitoring as well as disease detection and surveillance supported by a dedicated team including technical and veterinary specialists. Livestock and poultry producers, laboratories, and veterinarians depend on IDEXX diagnostic technologies to make confident decisions about animal health, disease management, reproductive efficiency, and to ensure consumers have access to safe, healthy food, milk, and water. Reproducibility, reliability and accuracy are three of the reasons why more than 1.5 billion IDEXX tests have been run worldwide since 1985.

Find us at:

www.idexx.com/livestock



inqaba biotec is a unique South African Genomics company that was established in 2002. The company premises are based in Pretoria with subsidiaries in both East and West Africa. Our in-house services include synthesis of oligonucleotides/probes, Sanger and NGS sequencing, SNP & Methylation analysis, Bioinformatics support, Phylogenetic & Molecular techniques courses. We are also distributors of strong leading international manufacturers of life science reagents and molecular diagnostic solutions. These partnerships are founded upon a shared philosophy of good science, high quality, and excellent service with an aim to be a one-stop Genomics shop in Sub-Saharan Africa. Our journey with the animal industry began in 2009 when respected dog breeders approached inqaba biotec™, to provide efficient, accurate and cost-effective genetic services. We now offer a wide range of testing services for the domestic, livestock and wildlife species which includes, health, coat colour, mutation and DNA profiling and parentage testing.

Find us at:

info@inqababiotec.co.za | www.inqababiotec.co.za



Labotec, a supplier of laboratory equipment to sub-Saharan Africa, was established in 1960 as one of the first laboratory supply companies in South Africa. Labotec has partnered with some of the world's leading brands, bringing the best quality home to help empower laboratories and manufacturers to make more accurate diagnostic decisions, advance research methods and results and improve production performance in diverse fields such as food & beverage, microbiology, chemistry, physics, medical, industrial, and pharmaceutical.

Find us at:

<https://www.labotec.co.za/>



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SEPARATIONS was founded in 1989 and specializes in the supply of an extensive range of laboratory, process scale consumables and equipment for use in biological, pharmaceutical, food safety, water and research laboratories to Southern and Sub-Saharan Africa. The Separations Vision lies in making South African Scientists and Laboratory Technicians more successful by:

- Supplying Spectacular Products
- Providing Spectacular Technical Support
- Delivering Spectacular Commercial Services

Find us at:

<https://www.separations.co.za>



The Scientific Group (Pty) Ltd is a leading South African diagnostics and scientific solutions distributor with over 42 years of experience in supplying and servicing laboratory instruments, reagents, consumables, and scientific equipment across Africa. Established in 1983 and headquartered in Johannesburg, the company serves laboratories, hospitals, clinics, academic institutions, and research organizations through its Diagnostics, Science, and Export divisions. The Diagnostics division provides a comprehensive range of healthcare and laboratory solutions through partnerships with globally recognized manufacturers, while the Science division supplies premium products and technical support to academic and scientific sectors. The Export division extends sales and service support throughout Africa via direct engagement and a network of distribution partners. Guided by its vision to be Africa's most reliable Diagnostic and Science solutions partner, The Scientific Group delivers innovative, accurate, and cost-effective solutions through trusted global partnerships.

Find us at:

<https://www.scientificgroup.co.za/>

Programme - Oral

Wednesday 30 September, 2026		
Time	Title	Speaker
Session 1 – Opening Plenary Session Chair: Dr Itumeleng Matle		
07:30	Registration Open Arrival coffee/tea Poster viewing and networking	
08:30	Welcome & Opening Remarks	Dr Itumeleng Matle Congress Chairperson
08:45	Guest Speaker 1 - Beyond the laboratory bench: The expanding role of Veterinary Technologists in advancing animal health, biosecurity and One Health in South Africa	Dr Noluvuyo Magadla The Director: Animal Health for the Western Cape Department of Agriculture
09:15	Keynote Speaker 1 - Beyond Professional Boundaries: Advancing together to shape the future of veterinary services	Dr Oseke Ngobeni Gauteng Department of Agriculture Land Reform & Rural Development
10:00	Mid-morning refreshments	
Session 2 – From Sample to Solution: Strengthening Veterinary Diagnostic in South Africa Session Chair: Mr Jabulani Magagula		
10:30	Veterinary & Animal Health Laboratory Infrastructure	Mr Awie van Rensburg AFMS Sponsored Talk
10:45	[01] Development of a method to extract high molecular weight DNA from a putative novel <i>Anaplasma</i> species identified in impala (<i>Aepyceros melampus</i>) in, South Africa	Karabo A. Aphane University of Pretoria
11:00	[13] Detection and identification of mastitic pathogens from cows’ milk using metagenomics method	Fulufhelo A. Doboro North-West University
11:15	 [31] <i>Babesia lengau</i> and a <i>Hepatozoon</i> -like parasite, reported in blood collected from captive Cheetahs	Tshwane University of Technology: - Malebo J. Mokwena - Dimpho M. Malesa - Palesa S.H. Marakalala - Thabiso L. Monyai
11:20	 [32] Molecular detection of blood bacteria in ticks collected from captive cheetahs (<i>Acinonyx jubatus</i>) and pastures close to cheetah enclosures	Tshwane University of Technology: - Ntsebeng N Masemola - Neo A Monyane - Kgabo G Mmonwa - Vhutshilo V Musekwa - Promise M Tsikelele - Siphesihle S Shandu
Session 3 – Surveillance-Driven Diagnostics Session Chair: Ms Nomsa Letsoalo		
11:25	[02] <i>Toxoplasma gondii</i> in cattle from Limpopo Province, South Africa: Prevalence, risk factors, and molecular characterization	Lesego L. Mashiane North-West University
11:40	[04] Mapping the burden of mastitis in South Africa: provincial trends and seasonal variation from 2000–2025	Puseletso Masemola North-West University
11:55	Poster Session 1	
12:25	Lunch	

Wednesday 30 September, 2026

Time	Title	Speaker
Session 4 – Surveillance-Driven Diagnostics		
<i>Session Chair: Mr Leften Mokami</i>		
13:15	 [11] Shifting Genomes, Rising Threats: Adaptive Evolution and Antimicrobial Resistance of E. coli ST10 across African Ecologies	Refiloe Malesa <i>Agricultural research council</i>
13:30	[29] Transition from live sentinel monitoring to environmental PCR-based surveillance in an SPF rodent facility: A South African case study	Jabulani Magagula <i>University of Cape Town</i>
13:45	 [33] Integrating Morphological and PCR-RFLP approaches for identification and assessment of <i>Rhipicephalus</i> resistance profiles	<i>Tshwane University of Technology:</i> - Kgothatso A. Moobi - Despour Mashego - Madelein Dry - Lindiwe P. Mkhwanazi - Karabo E. Machaka - Cornelius J. Muller
13:50	[16] Surveillance, virulence profiling and molecular characterization of antibiotic-resistant <i>Campylobacter</i> species isolated from chicken carcasses in informal broiler farms in Gauteng Province, South Africa	Thabiso Nxumalo <i>ARC-OVR</i>
14:05	[26] Characterization of environmental bacterial communities in aquaponic systems in Gauteng Province, South Africa	Prisca K. Thethe <i>Tshwane University of Technology</i>
14:20	Round Table Discussion	Sphamandla Qwabe
15:20	Mid-afternoon refreshments	
15:30	SAAVT AGM (Members Only). Zoom link will be sent to SAAVT Members who cannot physically attend.	
18:30	Congress Social Dinner & Awards: Theme “Coastal Chic” - Lifetime Achievement Award - Recognition Awards	



Thursday 01 October, 2026

Time	Title	Speaker
Session 5 – Opening Plenary Session Chair: Ms Nomkhosi Mathebula		
07:30	Registration Open Arrival coffee/tea Poster viewing and networking	
08:30	Welcome	Dr Itumeleng Matle Congress Chairperson
08:35	Guest Speaker 2 - SAVC strategic overview and key developments	Dr Nomsa Mnisi President of the South African Veterinary Council
09:05	Keynote Speaker 2 - A century of <i>Babesia</i> research: From Genesis to Genetics	Prof. Tshepo Matjila University of Cape Town
09:50	 [34] Molecular characterization of blood bacteria in ticks collected from cattle at a private farm in Madibeng Municipality, North West Province	Tshwane University of Technology: - Surprise Makhumisane - Naledi O H. Maphoto - Boichoko M. Phokontsi - Musa C. Kabine - Eva M. Motswiane
09:55	Mid-morning refreshments	
Session 6 – One Health Session Chair: Ms Gantshe Molaba		
10:30	Agilent BioTek solutions for veterinary testing	Mr Nick Desmond-Smith Chemetrix Sponsored Talk
10:45	[03] Whole-genome sequencing reveals the genomic epidemiology of <i>Yersinia enterocolitica</i> in South African meat and global populations	Itumeleng Matle University of South Africa
11:00	[08] Assessment of parasite diversity in fish species occurring in selected dams around Gauteng and North West Provinces of South Africa	Obakeng Boshielo Tshwane University of Technology
11:15	 [35] Molecular detection of <i>Babesia</i> species in ticks collected from cattle from a farm in the North West Province, South Africa	Tshwane University of Technology: - Diala Nakedi - Sthandwa Shabalala
Session 7 – Transforming veterinary laboratories for emerging and endemic diseases threats Session Chair: Ms Obakeng Boshielo		
11:20	[19] Seroprevalence and risk factors of <i>Toxoplasma gondii</i> in sheep and goats of North West Province, South Africa	Mthokozisi Masombuka University of South Africa
11:35	 [12] Assessment of diagnostic methods for Foot-and-Mouth Disease Virus (FMDV) in African Buffalo from cross-sectional sampling	Keneiloe Montsu Agricultural Research Council
11:50	Poster Session 2	
12:25	Lunch	

Time	Title	Speaker
Session 8 – Success stories (non-technical) <i>Session Chair: Mr Sphamandla Qwabe</i>		
13:15	Keynote Speaker 3 - Be Serious about <i>B. cereus</i> : the <i>Bacillus cereus</i> group in the genomic era	Dr Laura Carroll <i>Umeå University, Umeå, Sweden</i>
14:00	[05] Ownership of dogs and cats, knowledge of rabies, and predictors of vaccination of dogs against rabies: A community survey	Bertha Nchabeleng <i>University of South Africa</i>
14:15	[14] The role of culture and leadership in organisational readiness for quality 4.0 adoption in a diagnostic laboratory	Yoanda Alice Marageni <i>Dept. of Agriculture</i>
14:30	[22] Economic impact of malignant catarrhal fever on cattle production in Lephalale Municipality, Limpopo Province, South Africa	Emmanuel Seakamela <i>ARC-OVR</i>
14:45	[27] How to math when you can't math, how to make Excel your new best friend	Minyon Basson <i>WCPVL</i>
15:00	Mid-afternoon refreshments	
15:15	Awards & Closing of Congress	

Programme - Posters

POSTER SESSION: 11h55 – 12h25	
Title	Speaker
[06] The decline of provincial veterinary laboratories in South Africa: consequences for animal health, disease surveillance, food safety and veterinary public health	Itumeleng Matle <i>University of South Africa</i>
[07] The implementation of Quality Management System to enhance the One Health approach	Masabata Annah Motaung <i>ARC-OVR</i>
[10] Seroprevalence and molecular characterization of <i>Brucella</i> species in cattle and sheep in the Free State province of South Africa	Joshua Sizwe Mahlangu <i>Agricultural Research Council</i>
[18] Quality assurance investigation and optimization of the <i>Brucella ovis</i> complement fixation test following persistent anticomplementary reactions	Boitumelo Mathabatha <i>ARC-OVR</i> <i>(Poster will be presented by Bertha Marumo)</i>
[25] Efficacy of common medicinal plants for “veterinary textile” application against bacteria affecting “furbabies”	Gantshe G. Molaba <i>Tshwane University of Technology</i>

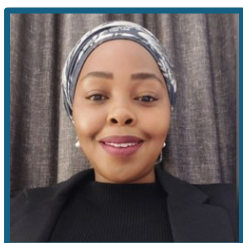
Keynote Presentations

Beyond Professional Boundaries: Advancing together to shape the future of veterinary services

Dr Oseke Ngoben

Gauteng Department of Agriculture Land Reform & Rural Development

The veterinary profession operates in an increasingly complex environment where the incidence and prevalence of emerging and transboundary animal diseases, increasingly competitive global trade in animals and food of animal origin, food security, antimicrobial resistance, climate change, and evolving societal expectations, demand a new approach to veterinary service delivery. The future of the safeguarding of the health of animals depends not only on scientific and technological advances, but also on the ability of veterinary professionals to collaborate effectively across disciplines, sectors, and institutions. The current control and management of foot-and-mouth disease (FMD) outbreaks in RSA has demonstrated that meaningful progress is only achieved through strong partnerships among veterinary professionals, government, academia, industry, producers, and other stakeholders. Drawing on practical experiences from laboratory diagnostics, disease control programs, and state veterinary services, the presentation will examine the leadership behaviours, communication strategies, and collaborative approaches required to build an integrated veterinary service. This presentation explores how breaking down traditional professional boundaries and fostering meaningful collaboration can strengthen veterinary services, enhance disease prevention and control, improve surveillance and diagnostics, and support sustainable livestock production. It highlights the value of multidisciplinary partnerships among veterinary professionals, researchers, government, industry, academia, and livestock owners in delivering impactful and resilient animal health services. Following on the theme of this year SAAVT congress; "United in Veterinary Excellence," the presentation seeks to inspire delegates to move beyond their professional boundaries, embrace collaborative leadership, and work together to shape a resilient, innovative, and future-ready veterinary service. This includes a shared commitment to safeguarding animal health, public health, economies and livelihoods, and food security.



Biography

Dr Oseke Precious Monica Ngoben is a qualified Veterinary Technologist and Veterinarian with extensive experience covering both the public and private sectors. She holds a B. Tech Degree from Tshwane University of Technology and Bachelor of Veterinary Science from the University of Pretoria. She brings over 14 years of professional experience, including more than a decade in the public sector and additional experience in the pharmaceutical industry. She is currently serving as **Director: Animal Health at the Gauteng Department of Agriculture**, a position she has held since 01st December 2025. In this role, she provides strategic leadership on

animal health programmes, disease control, and regulatory compliance within the province. Prior to this appointment, Dr Ngoben served as a State Veterinarian in Disease Control at the National Department of Agriculture, (Previously referred as Department of Agriculture, Land Reform and Rural Development); where she contributed to the development of disease control policies, contingency plans, and national strategies, while also ensuring compliance with animal health legislation. Her earlier roles include Deputy Director Animal Health (Sekukhune District) and Laboratory State Veterinarian in Limpopo Department of Agriculture and Rural Development, where she was responsible for disease surveillance, laboratory diagnostics, and implementation of the Animal Diseases Act. Dr Ngoben also gained significant private sector experience as a Sales Manager at MSD Animal Health, where she led regional teams across Southern African Developing countries (SADC excluding SA, Namibia and Angola), managed key accounts, and drove strategic market growth. Her strong background in customer engagement, negotiation, and stakeholder management complements her technical expertise in animal health. She has advanced skills in disease investigation, laboratory diagnostics, and post-mortem examinations across multiple species, supported by a solid understanding of epidemiology and disease management systems. She is also experienced in policy development, regulatory advisory, and multi-stakeholder coordination. Dr Ngoben is the recipient of the Sub-Saharan Africa Allflex Sales Manager Award (2021) and is known for her strong leadership, analytical capability, and effective communication skills. She is proficient in English, Afrikaans, and other South African languages, enabling her to engage effectively across diverse communities and professional environments. She recently obtained her Master of Business Administration (cum

laude) from Tshwane University of Technology, further strengthening her strategic and leadership capabilities in the animal health sector.

WEDNESDAY, 09:15

A century of *Babesia* research: From Genesis to Genetics

Prof. Tshepo Matjila
University of Cape Town

Babesias are parasites that invade red blood cells and are transmitted by a variety of tick species. They infect almost all living mammals, including humans, causing the destruction of red blood cells, leading to a haemolytic disease characterised by complications and organ failure which, if left untreated, may be fatal. Based on their clinical importance, babesias are recognised as a major problem in humans, various wildlife species and most production and companion animals. These parasites were discovered in 1885 by Victor Babes, a Romanian physician, who recognised that they caused “red water fever” in cattle. This “rare and severe disease” was later named after him. Ever since the first observation of these parasites using blood smears under a light microscope at the end of the nineteenth century, babesias continue to cause production and morbidity problems, especially in the tropical and subtropical regions of the world. This is regardless of the fact that there has been continuous research into the epidemiology, treatment, prevention and control of babesiosis. More than a century later, babesias remain parasites of economic importance, and evidence suggests that they are spreading in geographical areas where they were previously not known to occur.



Biography

Tshepo Matjila is the Director of the Research Animal Facility in the Faculty of Health Sciences at the University of Cape Town and holds the rank of Associate Professor. He obtained his PhD in Veterinary Tropical Diseases from the University of Pretoria's Department of Veterinary Tropical Diseases, where he also served as Head of Department for two consecutive terms between 2015 and 2023. An established researcher in veterinary parasitology, he has made significant contributions to the understanding of parasitic organisms that cause disease in animals. His research focuses on the biodiversity of parasitic pathogens and the development of innovative technologies for their detection, control, and surveillance. His work includes the development of molecular diagnostic tools and the use of animal models, particularly

cattle, in experimental research aimed at improving animal health and disease management. Through extensive national, regional, and international collaborations, he has successfully led and partnered in multidisciplinary research initiatives supported by funding from both the private sector and major funding agencies. These include AfriVet, the National Research Foundation (NRF), AgriSETA, and the Food and Agriculture Organization of the United Nations (FAO). Prof Matjila is committed to capacity development and has supervised and graduated numerous postgraduate students while mentoring postdoctoral fellows. He has established a strong research profile, with an H-index of 14 (according to Scopus and ResearchGate) and more than 750 citations of his scholarly work. His extensive experience in research leadership, animal health, veterinary parasitology, and research infrastructure management continues to contribute significantly to advancing animal health research in South Africa and beyond.

THURSDAY, 09:05

Be Serious about *B. cereus*: the *Bacillus cereus* group in the genomic era

Dr Laura Carroll
Umeå University, Umeå, Sweden

The *Bacillus cereus* group is a complex of closely related bacterial species, which vary in pathogenic potential. While some strains are considered to pose a low risk to humans, other strains can cause foodborne illness, severe non-gastrointestinal infections, or anthrax. Differentiating high-risk *B. cereus* group strains from their low-risk counterparts is essential from a public health perspective but remains challenging. Public databases currently housing *B. cereus* group genomes are plagued by taxonomic misclassifications, unstandardized metadata, and

low-quality genomes. Using thousands of newly assembled *B. cereus* group genomes, we show how popular, state-of-the-art bioinformatic tools for bacterial species identification can lead to dangerous pathogen misidentifications when applied to the *B. cereus* group. We discuss what *B. cereus* group researchers and stakeholders can do to avoid such misidentifications, and we showcase how genomic data can be leveraged to gain insights into the evolution and epidemiology of illnesses caused by *B. cereus* group members.



Biography

Laura Carroll is an Assistant Professor in the Department of Clinical Microbiology at Umeå University in Sweden. As a Fellow within Sweden's SciLifeLab and Wallenberg National Program for Data-Driven Life Science (DDLs), Laura and her research group develop and utilize bioinformatic approaches, which can leverage large amounts of microbial (meta)genomic data to monitor and combat the spread of pathogens.

THURSDAY, 13:15

Guest Speaker Presentations

Beyond the laboratory bench: The expanding role of Veterinary Technologists in advancing animal health, biosecurity and One Health in South Africa

Dr Noluvuyo Magadla

The Director: Animal Health for the Western Cape Department of Agriculture

Veterinary Technologists have become indispensable contributors to South Africa's animal health system, with responsibilities that extend well beyond conventional laboratory diagnostics. Increasing globalisation, emerging and transboundary animal diseases, antimicrobial resistance, climate change, and evolving international trade requirements have transformed their role into one that is central to disease surveillance, laboratory quality management, biosafety and biosecurity, molecular diagnostics, epidemiological investigations, and evidence-based decision-making. Recent outbreaks of Foot-and-Mouth Disease (FMD), Highly Pathogenic Avian Influenza (HPAI), and African Swine Fever (ASF) have highlighted the critical importance of rapid, accurate, and reliable laboratory services in supporting outbreak detection, emergency response, disease control, and the maintenance of domestic and international market access. Veterinary Technologists provide the scientific foundation that enables veterinary authorities to make timely and informed decisions while strengthening national biosecurity and livestock resilience. This presentation explores the evolving role of Veterinary Technologists as strategic partners in integrated animal health systems. It highlights their contributions to laboratory innovation, genomics, digital surveillance, quality assurance, artificial intelligence, and the One Health approach. The presentation also examines the future competencies required for the profession, including leadership, data analytics, and risk assessment, while highlighting opportunities to strengthen workforce capacity through continuous professional development and collaboration between government, academia, research institutions, and industry. As South Africa continues to strengthen its veterinary services to meet national and international animal health challenges, Veterinary Technologists will remain at the forefront of scientific innovation and disease preparedness. Investing in their skills, leadership, and professional development is essential for building resilient veterinary services, protecting public health, supporting sustainable livestock production, and enhancing national and global health security.



Biography

Dr Nolvuyo Magadla is a highly experienced veterinary professional and epidemiologist who serves as the Director of Animal Health for the Western Cape Department of Agriculture in South Africa. She plays a critical leadership role in the agricultural sector, managing provincial veterinary services, implementing disease control strategies, and safeguarding livestock. She holds a Master of Science (MSc) in Veterinary Science, with special interest in Veterinary Epidemiology from the University of Pretoria and a Post Graduate diploma in Veterinary Epidemiology and Public Health from University of London (Royal Veterinary College). She has previously worked within Gauteng's veterinary services and served as the Vice President of the South African Society of Veterinary Epidemiology and Preventive Medicine (SASVEPM), currently serving as a Chairperson for ISVEE 2027. Dr Magadla leads provincial efforts in monitoring, containing, and managing major animal disease outbreaks, such as Foot-and-Mouth Disease (FMD) and Avian Influenza (Bird Flu). She frequently briefs the media and public on containment plans, livestock movement restrictions, and vaccination rollouts and regularly provides essential biosecurity guidelines to poultry and livestock farmers to prevent the transmission of diseases.

WEDNESDAY, 08:45

SAVC strategic overview and key developments

Dr Nomsa Mnisi

President of the South African Veterinary Council

The South African Veterinary Council (SAVC) is the statutory regulatory body and custodian of the veterinary and para-veterinary professions in South Africa, mandated to safeguard animal health and welfare, public health and the environment through the regulation and monitoring of professional, educational and ethical standards. This presentation provides an overview of the SAVC's mandate, operating environment and strategic direction for the 2026–2029 period. The SAVC's strategic framework responds to a changing veterinary and para-veterinary landscape, including shortages of veterinary and para-veterinary skills, developments in animal healthcare, the One Health approach, and the evolving needs of the professions and society. Its strategic direction is anchored in five key pillars: transformation, service excellence, stakeholder engagement, digitalisation, and wellness and welfare. These priorities seek to strengthen regulatory effectiveness while improving the Council's responsiveness and engagement with professionals, students, training institutions and other stakeholders. The presentation further outlines the SAVC's institutional programmes, encompassing legal and compliance functions, registration, education, and support services. Key priorities include strengthening compliance and enforcement, reviewing registration and facility inspection models, monitoring educational standards, enhancing information technology infrastructure and security, and improving communication and engagement with stakeholders. The strategic framework also places emphasis on wellness and animal welfare through targeted awareness initiatives, webinars and stakeholder partnerships. Collectively, these priorities reflect the SAVC's commitment to maintaining high professional and ethical standards while positioning the veterinary and para-veterinary professions to respond effectively to emerging challenges. The strategic plan provides a structured framework for strengthening regulatory governance, service delivery, digital capability and stakeholder collaboration in support of quality veterinary services in South Africa.



Biography

Dr. Nomfundo Nomsa Mnisi is a veterinarian who qualified at the Medical University of Southern Africa (MEDUNSA) and later obtained a Master in Public Health degree at the same institution, at that time named University of Limpopo, MEDUNSA campus. Her career started as a state veterinarian in Mpumalanga province serving previously disadvantaged communities and providing clinical training to officials who received their training through correspondence. She moved through the ranks, different units in state vet services in different provinces, with national and inter-national liaison. She served in senior management with the Mpumalanga provincial government and the Department of Agriculture (DoA). She is a community orientated veterinarian and believes in changing mind-sets to achieve animal health care for all. She is currently a consultant veterinarian, with a growing service in oversight, currently serving as the President of the SAVC.

THURSDAY, 08:45

Oral Presentations

in order of appearance as on the programme

[01] Development of a method to extract high molecular weight DNA from a putative novel *Anaplasma* species identified in impala (*Aepyceros melampus*) in, South Africa

Karabo A. Aphane¹, Kelly A. Brayton^{2,1}, Eliciane C Mattos², S. Marcus Makgabo^{1,3}, Dina M Fagir^{1,4}, Marinda C. Oosthuizen¹ & Nicola E. Collins¹

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Anaplasma species are Gram-negative, obligate intracellular bacteria that infect blood cells of diverse vertebrate hosts, primarily transmitted by ticks. Molecular advances have revealed numerous novel *Anaplasma* species in livestock, wildlife, and humans, including a putative new species recently detected in impala (*Aepyceros melampus*) in South Africa. Limited information exists on its biology, including localization within host blood components. This study aimed to identify impala blood samples positive for the organism, determine the fraction with highest bacterial concentration, and assess methods for enriching DNA to support future whole genome sequencing. This study screened impala blood samples (n = 21) from the Timbavati Private Nature Reserve using a group-specific real-time PCR assay targeting the 16S rRNA gene. Selected samples were fractionated into red blood cell (RBC), white blood cell (WBC), and plasma components. Full-length 16S rRNA microbiome sequencing and a blood filtration approach to reduce host DNA were applied to selected samples. All samples tested positive for *Anaplasma*, with Ct values ranging from 21.68 to 39.38 (mean 31.69), indicating variable bacterial loads among individuals. *Anaplasma* DNA was predominantly associated with the RBC fraction, which had significantly lower Ct values compared to other fractions (Friedman test, p = 0.0009; post hoc Wilcoxon, p ≤ 0.047). Microbiome sequencing confirmed *Anaplasma* as the dominant bacterial taxon (70.09%), with two major sequence types (ST KNP-1a and ST KNP-1b) and additional low-abundance variants, suggesting mixed infections. Blood filtration effectively reduced host DNA and enriched erythrocyte-associated *Anaplasma*, increasing the pathogen-to-host DNA ratio by ~85 to 10,000-fold, although total DNA yields were low. These findings demonstrate erythrocyte tropism of the impala-associated *Anaplasma* and provide a practical approach for enrichment of erythrocyte-associated *Anaplasma* DNA from field samples. This work supports ongoing efforts toward whole genome sequencing and improved taxonomic and epidemiological understanding of *Anaplasma* diversity.

WEDNESDAY, 10:45

[13] Detection and identification of mastitic pathogens from cows' milk using metagenomics method

Fulufhelo A. Doboro¹, Vuledzani P. Mashamba², Mogorosi Obakeng³ & Boitshepo C. Tsubella⁴

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Mastitic pathogens mainly *Streptococcus uberis*, *Staphylococcus aureus*, *Streptococcus dysgalactiae*, and *Streptococcus agalactiae* are associated with an inflammation of the mammary gland in dairy cows and cause economic losses in the dairy industry. The objective was to detect, identify and analyse mastitic pathogens in cow's milk from Mafikeng farms using the advanced molecular method (metagenomics), and the study question was to find out whether there are unknown pathogenic bacteria associated with mastitic in cows which cannot

be identified using conventional microbiological method. Convenience sampling method of milk samples from different 5 farms (17 cows) was used. Metagenomics method was used for detecting and identification of the pathogenic bacteria associated with mastitis in cows by sequencing bacterial 16S ribosomal RNA gene. The following dominant pathogens were detected and identified: *Acinetobacter (A) baumannii*, *A. lwoffii*, *A. junii*, *Bacillus cereus (B. cereus)*, *Pseudomonas putida (P. putida)* and *Staphylococcus aureus* from 17 suspected mastitis cows at the Mafikeng farms. Each of the selected identified pathogens, namely, *A. baumannii*, *P. putida*, *B. cereus* and showed genetic variation when subjected to phylogenetic analysis. This study provides knowledge of new circulating pathogens associated with mastitis in cows from Mafikeng farms which were never been identified using conventional microbiological method in the laboratory. Metagenomics was able to detect and identified unknown pathogens that were never known to be associated with mastitis and in future it can be recommended as the gold standard method for mastitis. Effective diagnosis of mastitic disease can result in the control of the disease using accurate antibiotic treatment instead of using broad spectrum antibiotics that has been leading to antibiotic resistance which is currently a global problem.

WEDNESDAY, 11:00

[02] *Toxoplasma gondii* in cattle from Limpopo Province, South Africa: Prevalence, risk factors, and molecular characterization

Lesego L. Mashiane¹, Yusuf B. Ngoshe², Ana M. Tsotetsi-Khambule³ & Nomakorinte Gcebe¹

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Toxoplasma gondii is a neglected zoonotic protozoan causing toxoplasmosis, a disease that can cause reproductive failures in domestic animals and wildlife and negatively affect the economy and agriculture and pose a public health concern. The study aimed to determine sero-prevalence, molecular prevalence, and characterize *T. gondii* in cattle, as well as associated risk factors. The prevalence of bovine toxoplasmosis was assessed using both serological and molecular methods. Potential risk factors associated with *T. gondii* seropositivity were evaluated through a questionnaire survey. The analyzed sera from 384 cattle revealed apparent seroprevalence of 11.72% (45/384) and a molecular prevalence determined by B1 gene PCR of 12.24% (47/384). Risk factors like geographical location (district municipality, local municipality, dip tanks/farms), herd size, tick presence, and farm type were associated with sero-positivity ($p < 0.2$) in the ELISA univariate analysis. However, these factors were not statistically significant ($p < 0.05$) in the final multivariable logistic regression model. Six PCR-positive products were sequenced, and BLASTn analysis against NCBI database confirmed 96.91-100% similarity to the *T. gondii* B1 gene fragment. Six single nucleotide polymorphisms were identified. Five isolates had identical sequences, and they clustered with *T. gondii*-RH Type I (virulent) reference strain. The presence of *T. gondii* antibodies and the detection of parasite DNA in examined cattle population highlight exposure of cattle to the parasite, a potential source of reproductive disorders, as well as a veterinary public health risk associated with *T. gondii* in Limpopo, South Africa. The current study reveals the first prevalence, risk factors and SNP analysis of the 194 bp fragment of toxoplasmosis from cattle in Limpopo province, with a relatively high prevalence indicating widespread infection. The study recommends the inclusion of *T. gondii* as a possible contributor to stillbirth/abortion cases in livestock.

WEDNESDAY, 11:25

[04] Mapping the burden of mastitis in South Africa: provincial trends and seasonal variation from 2000–2025 Puseletso Masemola

Puseletso Masemola¹ & Itumeleng Matle²

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Mastitis remains a major constraint to livestock productivity, with significant implications for animal health and dairy production. This study analysed national mastitis surveillance data from 2000 to 2025 to evaluate temporal trends, geographical distribution, seasonal variation, and outbreak dynamics. A retrospective descriptive analysis was conducted using reported outbreaks and case data across the nine provinces of South Africa. A total of 600 outbreaks and 1,716 cases were recorded over the 25-year period. Trend analysis showed fluctuating disease occurrence, with a notable peak in the year 2000 (254 cases), followed by variable annual patterns suggesting episodic increases rather than a consistent upward trend. These fluctuations may reflect changes in reporting practices, management systems, or environmental conditions. Geographically, mastitis cases were unevenly distributed, with the Eastern Cape contributing the highest burden (1,359 cases), indicating a significant regional hotspot. Other provinces reported comparatively lower-case numbers, suggesting spatial heterogeneity in disease occurrence, potentially influenced by differences in herd density, farming systems, and surveillance efficiency. Seasonal analysis revealed that mastitis occurrence was highest during summer, supporting the role of warm and wet conditions in facilitating pathogen proliferation and increasing infection risk. Lower case numbers were observed during cooler seasons. These findings highlight the importance of targeted, region-specific and seasonally informed control strategies. Strengthening surveillance systems and improving early detection and intervention measures are critical to reducing mastitis prevalence and improving livestock productivity

WEDNESDAY, 11:40

[11] Shifting genomes, rising threats: Adaptive evolution and antimicrobial resistance of *E. coli* ST10 across African ecologies

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Escherichia coli sequence type 10 (ST10) is an emerging zoonotic lineage with global distribution and a high antimicrobial resistance (AMR) burden, yet its population dynamics across Africa remain poorly understood. Here, we analysed 159 *E. coli* ST10 genomes including four newly sequenced isolates and 155 publicly available genomes from 19 African countries spanning human, animal, food, and environmental sources. Whole genome sequencing revealed high species-level similarity (mean average nucleotide identity: 99.44%), but single nucleotide polymorphism (SNP)-based phylogenetics delineated 122 distinct clusters, indicating substantial intra-lineage diversity. Over 71% of isolates were multidrug-resistant, with 29% carrying the extended-spectrum β -lactamase gene *bla*_{CTX-M-15}. Plasmid replicon analysis highlighted the widespread presence of IncFIB and ColRNAI plasmids, strongly linked to AMR gene carriage. Human-derived isolates predominated both phylogenetic clusters and resistance profiles. SNP-based comparisons revealed evidence of both localized evolution and long-distance dissemination across countries. These interconnected pathways underscore the bacterium's ecological ubiquity and the limitations of siloed surveillance strategies. The predominance of human-

derived isolates and evidence of both local and cross-border transmission highlight humans as key reservoirs and underscore the need for coordinated surveillance. These findings underscore the urgent need for integrated continent-wide One Health approach strategies to monitor and combat antimicrobial resistance, economic impact on trade restrictions and health security threats.

WEDNESDAY, 13:15

[29] Transition from live sentinel monitoring to environmental PCR-based surveillance in an SPF rodent facility: A South African case study

Jabulani S. Magagula

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Effective health surveillance systems are essential for maintaining microbiological integrity in laboratory animal colonies. Traditional sentinel programmes present ethical, logistical, and diagnostic limitations. This study describes the transition from live sentinel monitoring to environmental PCR-based surveillance (PRIA) in an academic SPF rodent facility, evaluating its impact on diagnostic sensitivity and operational efficiency. The facility houses over 30 mouse strains (~2,000 cages) and a Golden Syrian hamster colony. The sentinel programme involved rack-level soiled bedding transfer and opportunistic exposure, with sampling intervals ranging from quarterly to annual serology and parasitology screening. Due to limited local diagnostic capacity, samples were shipped internationally. Environmental monitoring using exhaust air dust (EAD) interceptors analysed via PCR was introduced, with a three-year overlap period to compare approaches. PRIA demonstrated increased diagnostic sensitivity, detecting *Entamoeba* spp. not identified by serology. Environmental sampling improved sample integrity and reduced regulatory and logistical constraints associated with international serum shipment. The transition significantly reduced reliance on live sentinel animals, decreasing animal use and freeing capacity within the facility. Although external testing costs remain, overall expenses were lower compared to overseas serum-based diagnostics. Findings highlight the limitations of sentinel-based surveillance in detecting certain pathogens and demonstrate the advantages of environmental PCR methodologies in sensitivity and practicality. Challenges included continued dependence on external laboratories and the absence of local PRIA services. Environmental PCR-based surveillance provides a sensitive, ethical, and operationally efficient alternative to sentinel monitoring. Expanding local diagnostic capacity in South Africa is essential to enhance accessibility, strengthen biosecurity, and support high-quality laboratory animal research.

WEDNESDAY, 13:30

[16] Surveillance, virulence profiling and molecular characterization of antibiotic-resistant *Campylobacter* species isolated from chicken carcasses in informal broiler farms in Gauteng Province, South Africa

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Campylobacter is an important bacterial foodborne pathogen, commonly present in food producing animals. Poultry, particularly chicken meat, is recognized as a major reservoir and transmission vehicle, thus posing a significant public health risk. Of increasing concern is the emergence of antimicrobial resistant *Campylobacter* strains particularly those harboring virulence-associated genes, which enhance pathogenicity. This cross-sectional study investigated the prevalence, virulence profiles, and molecular characteristics of *Campylobacter* species isolated from chicken carcasses collected from informal broiler farms across five districts in Gauteng Province. A total of 220 samples were analyzed using standard microbiological methods, with confirmation performed by polymerase chain reaction (PCR). Antimicrobial susceptibility testing was conducted using the Kirby–Bauer disk diffusion method, while antimicrobial resistance and virulence genes detected by PCR. The overall prevalence of *Campylobacter* species was 78.2% (172/220), with *Campylobacter jejuni* and *Campylobacter coli* being the predominant species. Prevalence differed significantly by location ($p < 0.05$), with the highest detection recorded in West Rand (93%), followed by Emfuleni (88%), City of Johannesburg (80%),

City of Tshwane (70%) and Ekurhuleni (65%). Antimicrobial resistance ranged from moderate to high, with overall frequent resistance observed against doxycycline, erythromycin and tetracycline, while resistance to nalidixic acid remained low. Resistance genes associated with tetracycline and fluoroquinolone resistance were commonly detected, with *tetC* being most prevalent (50.7%), followed by 23S rRNA mutations (39.5%), *C. jejuni gyrA* (36.1%) and *C. coli gyrA* (36.6%). Virulence profiling showed frequent detection of *cdtA* and *cdtC* in *C. jejuni*, while *C. coli* carried moderate levels of *cadF* and *cdtB*. High prevalence of *Campylobacter*, with antimicrobial resistance and virulence determinants, indicates significant contamination in poultry from informal farming. These highlight the potential public health risks exacerbated by poor hygiene and slaughtering practices. Therefore, continued surveillance is essential to reduce transmission and safeguard food safety.

WEDNESDAY, 13:50

[26] Characterization of environmental bacterial communities in aquaponic systems in Gauteng Province, South Africa

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Aquaponics is an integrated food-production system that combines fish and plant cultivation within recirculating aquatic environments. As aquaponics gains popularity in urban areas such as Gauteng Province, understanding microbial diversity within these systems is important for fish health, environmental sustainability, food safety and the long-term viability of integrated farming systems. Despite the increasing adoption of aquaponics in South Africa, limited information is available on the microbial communities associated with these production systems. This study aimed to assess microbial diversity associated with tilapia and catfish aquaponic systems from a One Health perspective. Samples were collected from four aquaponic farms in Gauteng Province, with up to three production tanks sampled per farm. Water, biofilm swab, and sediment samples were collected and processed using culture-based microbiological methods. Bacterial isolates were identified using Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF MS). Metagenomic analyses are currently underway to further characterize microbial community composition and diversity. Preliminary findings revealed diverse bacterial communities comprising *Aeromonas*, *Acinetobacter*, *Bacillus*, *Citrobacter*, *Exiguobacterium*, *Glutamicibacter*, *Lactococcus*, *Priestia*, *Pseudomonas*, *Rosellomorea*, and *Serratia*. These genera included environmental microorganisms, fish-associated bacteria and taxa containing species of veterinary and public health relevance. The occurrence of diverse bacterial genera across environmental matrices highlights the interconnected nature of aquaponic systems, where microbial communities are shared between aquatic animals and their environment. These findings emphasize the importance of microbial monitoring and surveillance in supporting animal health, environmental quality and sustainable food production within integrated aquaculture systems. This study provides baseline data on microbial diversity in South African aquaponic systems. Future metagenomic investigations will provide deeper insights into microbial community structure, functional diversity and potential health implications, supporting improved biosecurity, disease surveillance and sustainable aquaculture management within a One Health framework.

WEDNESDAY, 14:05

Round Table Discussion

The round table discussion will be facilitated by Mr sphamandla Qwabe joined by the CMC as panellists in the discussion. It will focus on **challenges** and **areas of improvement** in the profession as identified in the association's strategic plan. Delegates will have a chance to interact with panellists.

WEDNESDAY, 14:20

[03] Whole-genome sequencing reveals the genomic epidemiology of *Yersinia enterocolitica* in South African meat and global populations

Itumeleng Matle

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Yersinia enterocolitica is a globally distributed foodborne pathogen increasingly recognised within the meat production continuum; however, its genomic epidemiology in South Africa remains poorly characterised. This study employed whole-genome sequencing (WGS) to investigate the population structure, antimicrobial resistance (AMR), and virulence determinants of *Y. enterocolitica* isolated from retail meat products, and to contextualise these findings within a global genomic framework. A total of 23 isolates from beef and pork were sequenced, of which 18 high-quality genomes were retained and analysed alongside 356 publicly available food-associated genomes. Phylogenomic analysis based on core genome multilocus sequence typing (cgMLST) revealed clustering into four major lineages, with South African isolates predominantly belonging to the globally distributed HC1490_10 clade. Multilocus sequence typing identified 11 sequence types among local isolates, including potentially unique lineages (ST661, ST329, ST173, and ST352) not widely reported globally. Pan-genome analysis demonstrated substantial genomic plasticity, with an open pan-genome structure characterised by a high proportion of accessory and cloud genes, particularly in the global dataset. AMR profiling revealed a conserved intrinsic resistome dominated by β -lactamase genes (*blaA* and *ampC*) and efflux-associated determinants, while acquired resistance genes were detected at low frequencies. Virulence profiling indicated that South African isolates lacked key pathogenicity determinants, including Type III secretion system-associated genes, and were classified as non-pathogenic biotype 1A. In contrast, pathogenic lineages (HC1490_2) within the global dataset harboured both chromosomal and plasmid-encoded virulence factors. Mobile genetic element analysis identified diverse plasmids and prophages, highlighting their role in genome plasticity and horizontal gene transfer, although no plasmid-associated AMR genes were detected. While the dominance of non-pathogenic lineages suggests a currently low virulence risk, the presence of globally distributed lineages underscores the potential for emergence of pathogenic variants. These findings support the integration of genomic surveillance into food safety and One Health frameworks.

THURSDAY, 10:45

[08] Assessment of parasite diversity in fish species occurring in selected dams around Gauteng and North West Provinces of South Africa

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Freshwater ecosystems in South Africa are increasingly threatened by biological stressors, including parasite fauna, which compromise fish health through impaired growth, reduced fitness, behavioural alterations, and associated economic impacts [1]. This study adopted a two-pronged approach and was conducted across three major impoundments in the Gauteng and North-West provinces: Hartbeespoort, Roodekoppies, and Roodeplaat Dams. A questionnaire survey was administered to local fishermen to evaluate their knowledge, attitudes, and practices regarding fish parasites. Additionally, freshly caught fish were randomly purchased from fishermen at the study sites on a seasonal basis to assess variations in parasite diversity. Parasites were first morphologically identified and then confirmed by Polymerase Chain Reaction targeting the 18S rRNA gene (protozoa), cytochrome c oxidase subunit I (COI) gene (arthropods), and internal transcribed spacer (ITS) regions (helminths). The survey respondent demographic (N = 106) comprised 16% females and 84% males. Approximately 95% of the fishermen reported no knowledge of fish parasites, and 85% indicated that they do not clean fish immediately after capture and before selling. Furthermore, all respondents (100%) were unaware of zoonotic parasites associated with freshwater fish. A total of N = 92 fish were obtained across all dams over four seasons, comprising *Clarias gariepinus* (n = 21/92; 23%) and *Cyprinus carpio* (n = 71/92; 77%). Overall, n = 29 (32%) of the fish were infected, including 5 *C. gariepinus* and 24 *Cy. carpio*. Among *C. gariepinus*, the parasites identified included *Contracaecum* spp. (14%), *Dactylogyrus* spp. (5%), and *Proteocephalus* spp. (5%). In contrast, *Cy. carpio* was infected with *Argulus japonicus* (21%), *Atractolytocestus huronensis* (4%), *Dactylogyrus* spp. (7%), and

Cryptosporidium spp. (1%). The occurrence of *Contracaecum* and *Cryptosporidium* spp. highlights potential public health concerns, given their zoonotic significance and association with waterborne transmission. These findings contribute to a broader understanding of parasite diversity in South African freshwater systems, with important implications for biodiversity conservation, aquaculture management, and disease surveillance.

References

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THURSDAY, 11:00

[19] Seroprevalence and risk factors of *Toxoplasma gondii* in sheep and goats of North West Province, South Africa

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The protozoan parasite *Toxoplasma gondii* (*T. gondii*) causes toxoplasmosis, one of the most prevalent parasitic zoonotic diseases with significant economic and public health implications worldwide. Infection with the parasite has a significant adverse effect on sheep and goat production and can frequently go undetected in the herd, resulting in abortions and weak or dead offspring. Although there are few studies on seroprevalence and risk factors associated with *T. gondii* infections in livestock in other provinces of South Africa, there is no data in the North West province. A cross-sectional study was conducted to investigate the seroprevalence of *T. gondii* and risk factors associated with exposure in sheep and goats of the North West province of South Africa. Sera from 439 livestock (164 sheep and 285 goats) were collected and analysed for the presence of *T. gondii* IgG antibodies using indirect ELISA (Enzyme-linked immunosorbent assay). An assessment of potential risk factors in farms associated with seropositivity was also conducted using a structured questionnaire. Out of the 439 tested sheep and goats, 13.9% (61/439) were positive for IgG antibodies against *T. gondii*. Sheep and goats had seroprevalences of 19.5% (32/164) and 10.5% (29/275) respectively. In the multivariable logistic regression model, the risk of acquiring *T. gondii* was significantly higher in the mixed breed [Odds ratio (OR) = 71.07; 95% confidence interval (CI): 266.8-1893.1; $p < 0.011$] animals than white dorper sheep and in farms that burn or bury aborted material (OR = 42.04; CI: 179.9-982.5; $p = 0.020$) compared to those that only burn aborted material. The risk was lower for the farms in Kagisano-Molopo (OR = 0.00; CI: 0.0-25.4; $p = 0.015$) and Mahikeng (OR = 0.00; CI: 0.0-4.9; $p < 0.001$) local municipalities than Greater Taung local municipality, and for the animals that drink water from dams (OR = 0.03; CI: 0.2–58.8; $p = 0.021$) than those that drink from boreholes. The seroprevalence and risk factors associated with transmission observed show that *T. gondii* infection is widespread in sheep and goats of the North West province.

THURSDAY, 11:25

[12] Assessment of diagnostic methods for Foot-and-Mouth Disease Virus (FMDV) in African Buffalo from cross-sectional sampling

K. Montsu^{1,2}, R. Bommanna³, B. Beechler⁴, R. Spaan⁴, L.M de Klerk-Lorist⁵, P. Buss⁶, R. Biek⁷, L Heath¹, E. Perez³, S. Gubbins³, A. Jolles⁴ & M. Chitray^{1,2}

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South Africa lost its foot-and-mouth disease (FMD) free status in 2019. The relationship between FMD and African buffalo (*Syncerus caffer*), in the Kruger National Park (KNP), is a critical area of study to evaluate circulating strains and FMD virus (FMDV) transmission risks. In this regard, a cross-sectional study was undertaken. WOAHP recommended serological and molecular diagnostic methods were employed to analyse the buffalo samples at the ARC-OVI-TAD BSL3 laboratory. Seropositivity for FMDV non-structural (NSP) and structural proteins (SP) was >90% for all serotypes. FMDV serotype SAT2 had the highest prevalence followed by serotypes SAT1 and SAT3 respectively. Sensitivity of the NSP ELISA was estimated at 82.6% and specificity 99.0%. The sensitivity of the solid-phase competition ELISA (SPCE) was highest for SAT1, SAT2 and SAT3 respectively and specificity highest for SAT3 followed by SAT1 and SAT2. Virus isolations were successful from 75 tonsil swabs. Sensitivity of tonsil swabs was higher than that of probang samples whilst specificity was 100% for both. This cross-sectional study gave an overview of FMDV infection within the KNP buffalo herds and provided diagnostic performance of SAT serotypes on African buffalo samples by using both composite reference standard and latent class analysis. The data can be used as a base to develop validation for a method that will be internationally accepted for diagnosing FMDV in African buffalo. Current validation data in South Africa is across multiple species and considering the endemic situation of FMDV, validation that targets this species is important to inform current policies and gain recognition by WOAHP.

THURSDAY, 11:40

[05] Ownership of dogs and cats, knowledge of rabies, and predictors of vaccination of dogs against rabies: A community survey

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This study assessed ownership of pets (dogs and cats), knowledge of rabies and factors associated with rabies vaccination in Makhuduthamaga municipality, Limpopo Province, South Africa. A questionnaire based cross-sectional study design was adopted. Main places (i.e., villages) (n=17), and households (n=476) were selected using two-stage random sampling. Household heads or anyone (≥ 18 years) living in the household were invited to voluntarily complete the questionnaire. Data were analysed using descriptive and inferential statistics. Significance was assessed at $\alpha < 0.05$. 60% of the households owned pets. The median number of dogs and cats per household was 1 (range 1-7) and 1 (range:1-3) respectively. 42% of the respondents knew what rabies is. 35% characterized rabies as an abnormal and aggressive change in behaviour. 94% of the respondents knew rabies can be transmitted to people. 76% indicated that rabies was curable. 55% identified veterinary clinic as the primary source of vaccines for pets, while 14% cited medical practitioners as a source of vaccines for pets. Few respondents (16%) had vaccinated their pets against rabies. Only 32% indicated that they had heard messages about rabies prevention over the past year. Exposure to rabies prevention messages and knowledge about rabies were significantly associated with vaccination of pets ($p < 0.05$). Improving knowledge about rabies is crucial for promoting preventive practices and reducing the risk of transmission. Addressing gaps in knowledge and providing accurate information about rabies transmission and prevention are necessary for communities to better protect themselves and their pets from rabies.

THURSDAY, 14:00

[14] The role of culture and leadership in organisational readiness for quality 4.0 adoption in a diagnostic laboratory

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Quality 4.0 is based on the integration of advanced digital practices with traditional quality management methods to enhance organisational performance. However, successful digital transformation does not only depend on hard elements such as technological readiness and infrastructure, but also on soft organisational and human factors, which play a critical role in achieving sustainable quality improvement. The aim of this study was to investigate how organisational culture and leadership influence the readiness and ability of a diagnostic laboratory to adopt Quality 4.0 technologies. A qualitative exploratory research design, grounded in the interpretivist paradigm, was employed. Data was collected through semi-structured interviews with 20 technical staff to capture their perceptions of organisational readiness and digital quality transformation. The participants were selected using purposive sampling to ensure inclusion of individuals with relevant knowledge and experience, and the data was analysed thematically to identify key organisational factors influencing digital transformation. The findings indicate that limitations in digital infrastructure and reliance on manual processes can hinder the adoption of Quality 4.0 technologies. In contrast, leadership commitment, a collaborative organisational culture, workforce capabilities, and strategic alignment with organisational goals can help enable successful implementation. The study contributes to Quality 4.0 literature by highlighting the central role of human, organisational and infrastructural factors in facilitating sustainable digital quality transformation within laboratory settings. These findings provide practical insights for diagnostic laboratories seeking to improve digital readiness and effectively implement Quality 4.0 technologies.

THURSDAY, 14:15

[22] Economic impact of malignant catarrhal fever on cattle production in Lephalale Municipality, Limpopo Province, South Africa

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Malignant catarrhal fever (MCF) is a highly lethal viral disease of cattle that poses a persistent threat to livestock production in wildlife–livestock interface areas of Southern Africa. Despite its recognized clinical severity, the economic burden of the disease remains poorly quantified in South African production systems. This study assessed the long-term economic impact of malignant catarrhal fever on cattle production in Lephalale Municipality, Limpopo Province, South Africa, using a retrospective analysis covering the period from 2001 to 2021. The study combined confirmed case records, estimated mortalities, and region-specific production parameters to quantify both direct and indirect economic losses. Direct losses included mortality-related financial costs and the expenditure on treatment, while indirect losses encompassed reduced productivity, diminished milk yields, and associated declines in overall herd performance. The results show that MCF imposed substantial financial burdens on cattle producers, with mortality contributing to more than ninety percent of total losses. The total economic losses over the study period were substantial, amounting to approximately R 1.55 million, driven primarily by high mortality-related costs. Annual losses displayed considerable variability, reflecting the sporadic nature of the outbreaks and the fluctuations in the wildlife–livestock interactions. The spatial analysis revealed that most cases occur in wards situated adjacent to wildlife conservation areas, where cattle are exposed to virus-carrying wildebeest populations. Seasonal patterns indicated higher disease occurrence in spring and winter, consistent with established transmission dynamics. Although a gradual decline in both cases and associated losses was observed over the study period, episodic outbreaks continued to exert significant economic shocks on affected farming households. The findings reaffirm MCF as a persistent and high-impact constraint to cattle production in interface zones and highlight the need for improved surveillance, integrated land-use planning, and sustained investment in targeted disease control measures.

THURSDAY, 14:30

[27] How to math when you can't math, how to make Excel your new best friend

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Method validation in analytical chemistry often appears daunting due to the range of statistical equations required to demonstrate method performance characteristics. Earlier in the year, the draft for SANAS TR 26 "Criteria for validation of methods used by chemical laboratories in the coal, food, pharmaceutical, water and related industries" was revised by the Speciality Technical Committee (STC) sub-committee and distributed for review and comment. Laboratories across various sectors don't like to share their knowledge, and instrument vendors typically only provide support through paid services. Aligned with the congress theme—strengthening veterinary diagnostics in South Africa, One Health, and laboratory quality—this presentation aims to clarify the statistical rationale underpinning SANAS validation requirements. It offers practical guidance to veterinary technologists for implementing consistent validation practices, ensuring accurate and precise data generation. By demystifying the required calculations, the presentation supports harmonised analytical workflows and quality-assured results, thereby enhancing diagnostic capability and contributing to animal health and welfare.

THURSDAY, 14:45

END ORAL PRESENTATIONS

Virtual Poster Presentations

in order of appearance as on the programme

[31] *Babesia lengau* and a *Hepatozoon*-like parasite, reported in blood collected from captive Cheetahs

Suezet Pretorius¹, Christelle Grobler^{1,2,3,4}, Malebo J. Mokwena¹, Dimpho M. Malesa¹, Palesa S.H. Marakalala¹, Thabiso L. Monyai¹, Carin I. Boshoff¹ & Anna-Mari Bosman¹

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Haemoprotozoan parasites such as *Babesia*, *Hepatozoon*, and *Theileria* are of veterinary and conservation concern due to their transmission by ticks and their impact on both domestic and wild animals. Despite their importance, molecular data on these parasites in cheetah-associated ticks remain scarce in South Africa. This study aimed to detect haemoprotozoan DNA in ticks collected from cheetahs at a Conservation Center in the Northwest Province using Polymerase Chain Reaction (PCR) targeting the 18S rRNA gene.

Adult male and female ticks belonging to the genera *Rhipicephalus* and *Amblyomma* were collected from twelve cheetahs and the enclosures surrounding pastures using cloth dragging, followed by morphological identification under a stereomicroscope. Genomic DNA was extracted from tick tissue and collected blood samples using both a commercial Roche kit and a low-cost Tris-EDTA (TE) buffer–dishwashing liquid method. DNA from cheetah whole blood samples was also extracted and stored at –80 °C. Conventional PCR amplification of 18S rRNA gene regions was performed, and products were analysed by 2% agarose gel electrophoresis. Positive samples were subjected to cloning and sequencing to identify blood protozoa. No amplicons corresponding to haemoprotozoan parasites were detected in any tick sample, but the blood samples of two cheetahs tested positive for blood protozoa. BLASTn results indicated the presence of nucleic acid sequences similar to those of

Babesia lengau and a *Hepatozoon*-like parasite. This study provides valuable baseline molecular data for captive cheetahs and emphasizes the need for continued surveillance using sensitive molecular tools across seasons and geographic locations.

WEDNESDAY, 11:15

[32] Molecular detection of blood bacteria in ticks collected from captive cheetahs (*Acinonyx jubatus*) and pastures close to cheetah enclosures

Christelle Grobler^{1,2,3,4}, Ntsebenz N Masemola¹, Neo A Monyane¹, Kgabo G Mmonwa¹, Vhutshilo V Musekwa¹, Promise M Tsikelele¹, Siphehile S Shandu¹, Carin I. Boshoff¹ & Anna-Mari Bosman¹

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Ticks transmit pathogens to wildlife, domestic animals, and humans. Cheetahs (*Acinonyx jubatus*), a flagship conservation species in South Africa, remain understudied with respect to tick-borne bacterial infections. This study investigated the presence of *Anaplasma phagocytophilum* and *Ehrlichia canis*, both members of the family *Anaplasmataceae*, which have been previously linked to feline infections. *Rhipicephalus sanguineus* is the primary vector of *E. canis*, while *Ixodes ricinus* transmits *A. phagocytophilum* in cats, particularly in Europe. Ticks were collected at the Ukutula Conservation Center in the Northwest Province using cloth dragging and direct removal from cheetahs. Morphological identification classified ticks into *Amblyomma*, *Hyalomma*, and *Rhipicephalus*. Selected specimens underwent DNA extraction using a Sunlight liquid protocol, followed by PCR targeting 16S rDNA regions. All samples tested negative for *Anaplasma* and *Ehrlichia*. These findings suggest either absence or undetectable levels of these pathogens in the sampled ticks, while providing baseline data for wildlife health monitoring and supporting One Health surveillance in South Africa.

WEDNESDAY, 11:20

[33] Integrating morphological and PCR-RFLP approaches for identification and assessment of *Rhipicephalus* resistance profiles

Salome M.R. Leshilo¹, Kgothatso A. Moobi¹, Despour Mashego¹, Madelein Dry¹, Lindiwe P. Mkhwanazi¹, Karabo E. Machaka¹, Cornelius J. Muller¹, Khethiwe F. Mtshali¹, Ilse Luther-Binoir^{1,2} & Anna-Mari Bosman¹.

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Ticks are major ectoparasites of cattle, transmitting pathogens and contributing to significant economic losses in livestock production. Increasing acaricide resistance poses a serious challenge to effective tick control. In this study, ticks were collected from 54 cattle (n=300) on a farm in the Madibeng municipality, North West Province, South Africa. Morphological identification revealed 200 (67%) *Amblyomma hebraeum*, 50 (17%) *Hyalomma* spp., and 50 (17%) *Rhipicephalus* spp. Genomic DNA was extracted from all *Rhipicephalus* ticks to confirm species identification and assess acaricide resistance. Molecular analyses targeted the Internal Transcribed Spacer 2 (ITS2) region using PCR-RFLP with *Bgl*III and *Xmn*I restriction enzymes to support morphological identification. Additionally, the *AChE*, *AChE3*, and *OCT/Tyr* gene regions were amplified to detect mutations associated with resistance to organophosphates, pyrethroids, and amitraz. PCR products were analysed by agarose gel electrophoresis with appropriate controls. Results indicated that rotational use reduced the prevalence of

Rhipicephalus spp. and suggested low levels of resistance in this population. The low number of *Rhipicephalus* spp. collected from cattle indicates that the rotational acaricide application strategy on the farm is effective in suppressing this tick population. Molecular analyses further confirmed a low frequency of resistance-associated genes in *Rhipicephalus* spp., supporting the conclusion that acaricide resistance is currently minimal on this farm.

WEDNESDAY, 13:45

[34] Molecular characterization of blood bacteria in ticks collected from cattle at a private farm in Madibeng Municipality, North West Province

Salome M.R. Leshilo¹, Surprise Makhumisane¹, Naledi O.H. Maphoto¹, Boichoko M. Phokontsi¹, Musa C. Kabine¹, Eva M. Motswiane¹, Khethiwe Mtshali¹, Ilse Luther-Binoir^{1,2} & Anna-Mari Bosman¹

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Ticks are hematophagous ectoparasites and major vectors of pathogens that impact livestock and human health. In South Africa's North West Province, favorable climatic conditions and high livestock density promote tick proliferation and transmission of tick-borne diseases (TBDs). *Anaplasma marginale*, transmitted mainly by *Rhipicephalus decoloratus*, causes bovine anaplasmosis, while *Ehrlichia ruminantium*, vectored by *Amblyomma hebraeum*, leads to heartwater, a fatal rickettsial disease of ruminants. Despite their significance, molecular data on tick-borne bacteria in Madibeng Municipality remain limited, as traditional diagnostics often lack sensitivity and specificity. This study investigated bacterial pathogens in ticks collected from cattle in Rooispan, Madibeng, during March 2026. A total of 239 ticks were sampled, including *Amblyomma hebraeum* (n = 239), *Rhipicephalus* spp. (n = 50), and *Hyalomma* spp. (n = 81). Ticks were preserved in ethanol, morphologically identified, and DNA extracted using a cost-effective Sunlight Liquid Method. PCR targeting the 16S rRNA gene was performed. Preliminary results showed no detection of *Anaplasma marginale* or *Ehrlichia ruminantium* in the sampled ticks.

THURSDAY, 09:50

[35] Molecular detection of *Babesia* species in ticks collected from cattle from a farm in the North West Province, South Africa

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Bovine babesiosis, caused by *Babesia bovis* and *Babesia bigemina*, remains a major tick-borne disease of cattle in South Africa. Surveillance of free-living (questing) ticks is critical for assessing transmission risk, yet molecular data from the North West Province are limited. This study aimed to detect *Babesia* DNA in ticks collected from cattle-grazing areas at Rooispan Farm using a simple, low-cost molecular approach. Ticks were collected directly from cattle and identified morphologically under a stereomicroscope, revealing three species: *Amblyomma hebraeum* (n = 239), *Rhipicephalus* spp. (n = 50), and *Hyalomma* spp. (n = 81). Genomic DNA from *Rhipicephalus* spp. was extracted using a Sunlight soap-based method. Conventional PCR with genus-specific primers targeting the variable V5 region of the 18S rDNA gene of *Babesia* and/or *Theileria* was performed, and products were analysed on 2% agarose gels. One tick (*R. evertsi evertsi*) tested positive for the target genus-specific DNA. The amplicon was cloned and sequenced to confirm the genus and species identity. These findings provide preliminary molecular evidence of *Babesia* DNA in questing ticks from Rooispan, highlighting the utility of low-cost molecular methods for surveillance. Further studies with larger sample sizes are warranted to better understand the epidemiology of bovine babesiosis in the North West Province.

THURSDAY, 11:15

Poster Presentations

in order of appearance as on the programme

POSTER SESSION 1 – WEDNESDAY 9 OCTOBER, 11h50

[06] The decline of Provincial Veterinary Laboratories in South Africa: Consequences for animal health, disease surveillance, food safety and veterinary public health

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Provincial veterinary laboratories have historically formed the diagnostic backbone of South Africa's animal health system. These laboratories supported routine disease diagnosis, controlled animal disease programmes, outbreak investigation, veterinary public health, food safety testing, antimicrobial resistance surveillance and export certification. However, over recent years, many provincial veterinary laboratories have experienced progressive decline due to chronic underfunding, ageing infrastructure, loss of skilled personnel, weak procurement systems, declining test menus, difficulties maintaining accreditation, poor sample logistics and fragmented laboratory information systems. This decline has occurred at a time when South Africa faces increasing pressure from transboundary animal diseases, zoonoses, antimicrobial resistance, food safety risks and international trade requirements. The weakening of provincial laboratory capacity has contributed to longer turnaround times, reduced diagnostic accessibility, increased dependence on private laboratories, and loss of coordinated public-sector surveillance capacity. Although private and academic laboratories have expanded diagnostic services, they cannot fully replace the public-good function of provincial veterinary laboratories, especially for smallholder farmers, state disease control programmes and national surveillance. This paper reviews the historical role of provincial veterinary laboratories in South Africa, examines the drivers and consequences of their decline, and argues for urgent reinvestment, national coordination, accreditation support, digital integration and workforce renewal.

[07] The implementation of Quality Management System to enhance the One Health approach

Motaung Masabata Annah

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Quality is now a global term that must be maintained from a sustainability viewpoint that is not just focused on customer satisfaction but also on a wide variety of interested parties. Organizations from various fields, i.e., Veterinary, Medical, Environmental, and pharmaceutical disciplines, use quality management as a methodical technique to make sure that their goods and services continuously exceed customers' expectations. Furthermore, implementation of the quality management system benefits organisations, including testing laboratories, by ensuring consistent, accurate results, improving operational efficiency, facilitating regulatory compliance, accreditation, promoting risk management and continuous improvement, ultimately leading to greater credibility and cost reduction. The Agricultural Research Council-Onderstepoort Veterinary Research laboratories, which test for controlled and notifiable diseases, including food testing, have been accredited for more than 20 years. Over the years, there has been an improvement following the Quality Management Systems (QMS) aligned with ISO/IEC 17025 and other applicable standards. Integration of these standards in Veterinary testing laboratories, animal facilities, and support departments has enhanced operations and produced dependable outcomes by incorporating areas like supply chain, data management for results reporting, and bio-risk management. The Integrated Quality Management Systems (IQMS) has proven its compliance with applicable requirements of the standards ISO/IEC 17025, ISO 9001, ISO 45001, and ISO 35001, which in turn strengthens the effort of One Health.

[10] Seroprevalence and molecular characterization of *Brucella* species in cattle and sheep in the Free State province of South Africa

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Brucellosis is a bacterial zoonotic disease that poses economic threat globally, affecting both animal and human health. The study objectives were to determine the seroprevalence of brucellosis in cattle and sheep and to isolate *Brucella* species in the Free State Province, South Africa. A total of 541 samples (250 bovine and 291 ovine) were analysed serologically (Rose Bengal Test [RBT] and Complement Fixation Test [CFT]), bacteriologically, and molecular techniques. In cattle, RBT detected 9.2% (n =23) seroprevalence (95% CI: 6–13), while CFT confirmed (6.8%; n=17) (95% CI: 5.4–8.8). The Xhariep district recorded the highest seroprevalence (12.1%; n=9), compared to Fezile Dabi (8.8%; n=3) and Thabo Mofutsanyana districts (7%; n=11). Higher seroprevalence and CFT titres were observed in older cattle, suggesting cumulative exposure with age. In sheep, CFT recorded (10.7%; n=31) seroprevalence for *Brucella melitensis* and (7.56%; n=22) for *B. ovis*, with Xhariep district observing the highest infection rate. All seroprevalence sheep belonged to the 1-2 years age group, indicating early exposure in endemic flocks. *Brucella abortus* was detected in (8.0 %; n=20) of cattle tissue samples, with (6.8%; n=17) identified as *B. abortus* biovar 1 and (1.2 %; n=3) vaccine strain S19. PCR characterised all the isolates as *B. abortus*. In sheep, PCR confirmed 0.69% (n=2) *B. ovis* of culture samples, with females showing the highest prevalence. Brucellosis is endemic in some regions of Free State. These findings highlight the need for strengthened surveillance, targeted control programs, and farmer education to reduce brucellosis prevalence and mitigate its economic and public health impacts. This study provides epidemiological data on the seroprevalence and distribution of brucellosis in cattle and sheep in the Free State province, South Africa, and improves understanding of circulating *Brucella* species and biovars through serological, bacteriological, and molecular characterisation.

POSTER SESSION 2 – THURSDAY 9 OCTOBER, 12h15

[18] Quality assurance investigation and optimisation of the *Brucella ovis* complement fixation test following persistent anticomplementary reactions

Karabo A. Aphane¹, Bertha Marumo¹, [Boitumelo Mathabatha](mailto:Boitumelo.Mathabatha@arc.agric.za)¹, Alfred Pila¹, Ntshwaki Selepe¹ & Kgothatso Rakhutla

(Poster will be presented by Bertha Marumo)

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Routine quality control monitoring of the *Brucella ovis* complement fixation test (CFT) identified recurrent anticomplementary reactions resulting in invalid and inconclusive results, thereby compromising assay reliability and ISO-compliant diagnostic reporting. This persistent non-conformance was not observed in *B. abortus* or *B. melitensis* CFTs performed under identical conditions. The issue was identified across nine diagnostic submissions originating from different regions, comprising a total of 84 serum samples. Initial testing produced 47 negative, 8 suspect, 5 positive, and 24 anticomplementary results. A structured quality assurance investigation was undertaken to identify the root cause of the observed test failure pattern. Pre-analytical and analytical variables were systematically evaluated, with particular focus on serum treatment conditions. Findings indicated that serum inactivation temperature was a critical contributing factor to anticomplementary activity in *B. ovis* samples. As a corrective and preventive action, serum inactivation conditions were modified through a slight increase in temperature. Subsequent quality control verification demonstrated a marked reduction in anticomplementary reactions and improved test interpretability and consistency. These findings suggest species-

associated differences in complement interactions, potentially related to the rough lipopolysaccharide structure of *B. ovis*. This quality assurance intervention successfully restored assay performance and highlights the importance of continuous monitoring and optimization of serological diagnostic procedures in veterinary laboratory systems.

[25] Efficacy of common medicinal plants for “veterinary textile” application against bacteria affecting “furbabies”

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Antimicrobial resistance in zoonotic bacteria has increased globally. As a result, botanical plants have become more appealing as antimicrobial alternatives due to their low toxicity and being environmentally friendly. In many countries, including South Africa, invasive plant species have created a conservation problem as they displace indigenous flora and deplete water sources. However, these have a potential as alternatives for antimicrobials. Plants were selected through a systematic review method in a previously published paper. Plant genera *Juniperus* and *Eucalyptus* were collected from Gauteng. Plant leaves were dried and extracted with alcohol. The plants were tested for secondary metabolites using phytochemical tests and Thin Layer Chromatography (TLC). Minimum Inhibition Concentration (MIC) was evaluated on 96 well plates with extracts against the selected bacteria. Filter paper, linen, gauze and polyethylene were used to evaluate the growth inhibition of the extracts against the following bacterial species: *Staphylococcus epidermidis*; *Enterobacter cloacae*; *Bacillus subtilis*; *Basillus uniformis*; *Escherichia coli*; *Staphylococcus aureus*; *Enterococcus faecalis*; *Shigella flexneri*; *Proteus mirabilis*; *Salmonella Typhimurium* and *Campylobacter jejuni*. Microsoft Excel was used for statistical analysis of mean $\pm$ standard deviation values. A minimum 10 mg/mL concentration of extracts was used throughout the study. TLC and phytochemical analysis were congruent, showing terpenoids, polyphenols and alkanoids associated with antimicrobial efficacy. The acetone extract of *Juniperus* spp. showed antimicrobial activity against 7/10 bacteria tested, whilst *Eucalyptus* spp. was effective against 4/10 bacteria. The *Eucalyptus* and *Juniperus* extract combination were effective on 4/10 bacteria, which indicates an antagonistic effect. The current study has shown the efficacy of plants as antimicrobials. The study demonstrates that alien and invasive species can be exploited for economic gain, to mitigate overharvesting, exploitation, protect and conserve indigenous flora that may be endangered or threatened.

END POSTER PRESENTATIONS



SAAVT Membership

Membership to the Association is open to any person registered with the South African Veterinary Council (SAVC) as a Veterinary Technologist.

It should be noted that registration with the SAVC is compulsory for all persons working as a Veterinary Technologist within South Africa.

Membership with the SA Association of Veterinary Technologists (SAAVT) however is voluntary.

The current membership fees are:

- Senior member: Persons who have already completed the qualification – R175 per year
- Student member: Persons currently studying Veterinary Technology – R85 per year

Membership fees are payable annually before 31 May.

Non-payment of fees will result in being removed from the membership list. A re-application fee of R525 will be charged to persons previously removed from the list.

Benefits of becoming a Member

1. Advocacy

The SAAVT represents most of the registered veterinary technologists and acts as the mouthpiece of the profession. This includes:

- Communication with SA Veterinary Council
- Input towards legislation and regulations
- Legal action to ensure the rights of veterinary technicians are protected
- Liaison with other para-veterinary organizations in South Africa

2. Committees

The **COMMITTEES** of the SAAVT play important roles in representing the interests of members and the profession as a whole. Some are “standing committees” working on an ongoing basis, while other committees are established on an *ad hoc*/as-needed basis.

The standing committees include:

- **TUT Advisory Committee**
The committee presents the work that students do, then receive feedback and suggestions from the industry, in an effort to improve training and give training that is current and relevant.
- **SAVC Specialization Committee**
The committee is responsible for setting the minimum standards for specialization. The Committee constantly revises and approves the standard operating procedures and guidelines documents and drafts guidelines for monitoring training for prescribed specialist qualifications.
- **SAVC Registration and Authorisation Committee**
The committee is responsible for the screening of registration and authorization applications.
- **SAVC Executive committee**
This committee is responsible for taking decisions in between full council meetings, exercising all powers, and performing all the functions of the council. Section 11(1) of the Veterinary and Para-veterinary act of No 19 of 1982.
- **SAVC Education Committee**
This committee investigates and monitors all aspects of the veterinary and para-veterinary undergraduate standards for training, including examination standards and teaching facilities.



- **SAVC Standards Committee**
The committee determines standards of training in undergraduate programs. They focus on new veterinary faculties and foster regional harmonization in the training of all veterinary professions and para-professions. They liaise with University Councils of institutions that offer training for veterinary professions, in South African and regional African countries. They also oversee the process of bringing new veterinary para-professions on board.
- **Transformation Committee**
Transformation committee which will look at all issues relating to transformation in the SAVC and the industry including training institutions.
- **SANAS Scientific and Technical Committee**
This committee is a fundamental and vital component of operating a technically relevant accreditation/compliance system.
- **AREC – Animal Research Ethics Committee**
Review research proposals in order to ensure that the research conducted will promote health and contribute to the prevention of diseases, furthermore, we grant approvals for research by the relevant institution/s where the research proposal meets the ethical standards.
- **DCPS – Department Committee for Postgraduate Studies**
Review and approve research proposals for postgraduate studies within the department, assessing the study viability and contribution towards science.

3. **Other services and activities:**

Continuing Professional Development(CPD)

The SAAVT is actively involved in events and other activities aimed at providing members with CPD opportunities.

These include:

- **Biennial Para-Vet Congresses / Conferences:**
 - Held every second year, usually over three days, with various lecture streams to provide something for everyone, all CPD accredited.
 - The Para-Vet Gala Dinner, where Para-Vet Awards are handed over, takes place during this congress. The congress also provides other opportunities for members to socialize and renew friendships.
4. **Classified advertisements**
Classified career advertisements will be emailed to our members.

To become a member, complete the application form on page 42 or click here:

<https://www.saavt.co.za/registration/>



22nd International Symposium

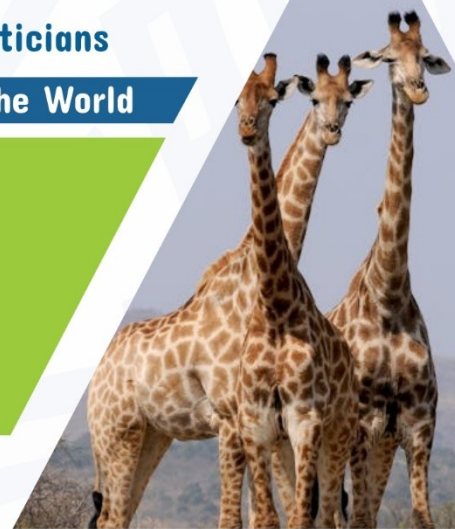
of the World Association of Veterinary Laboratory Diagnosticians

Diagnostics Driving One Health: Innovations from Africa to the World



**SAVE
THE DATE**

08-11 December, 2027 - Cape Town, South Africa



Diagnostics Driving One Health: Innovations from Africa to the World

The South African Association of Veterinary Technologists (SAAVT) is proud to present the 22nd Symposium of the World Association of Veterinary Laboratory Diagnosticians (ISWAVLD) in 2027.

For more than five decades, this prestigious symposium has brought together global leaders in veterinary diagnostics. This marks a historic first: the ISWAVLD 2027 will be hosted on African soil - a milestone long overdue. The time has come for Africa to claim its place on the world stage, and for the ISWAVLD to be welcomed to a continent it has never visited before.

The SAAVT represents a dynamic and dedicated community of professionals with a passion for advancing veterinary diagnostics. Since its establishment, the SAAVT has worked in partnership with local and international networks to strengthen laboratory capacity, promote excellence in diagnostic services, and support animal and public health across the continent. South Africa further assumed a leadership role in advancing collaboration by uniting with other African partners to address shared veterinary challenges and opportunities. **Bringing the symposium to South Africa in 2027 is not only timely - it is essential!**

Important dates and deadlines for ISWAVLD 2027 Registrations



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