
**THE NELSON MANDELA
AFRICAN INSTITUTION OF SCIENCE AND TECHNOLOGY
(NM-AIST)**

VIVA VOCE ANNOUNCEMENT

FROM: Dean LiSBE

30th March 2021

TO: THE PUBLIC

3. VIVA VOCE EXAMINATION OF A PhD CANDIDATE OF LISBE, MR. ANDREW CHOTA

The A.g. Dean of the School of Life Sciences and Bio-Engineering (LiSBE) at the NM-AIST, Dr. Ernest Mbega hereby announces the VIVA-VOCE Examination of MR. ANDREW CHOTA a PhD candidate in Life Sciences (LiSe), majoring in Health and Biomedical Sciences.

The event is scheduled on Tuesday, 20th April 2021 in Room B202 from 01:00pm to 04:00 pm.

Research Title:

Epidemiology and Diagnostic Accuracy of Diseases Presenting With Respiratory Signs in Small Ruminants in Tanzania

ABSTRACT

Outbreaks of diseases presenting with respiratory signs in small ruminants in different parts of Tanzania have been reported for many years. Complications caused by concurrent infections and dependency on clinico-pathological diagnosis results in untimely interventions, poor control strategies and significant economic losses in resource poor families.

A cross-sectional survey was conducted in six districts covering four administrative zones of the country, namely; Kiteto (North-eastern zone), Babati (Central zone), Mbozi and Mbarali (Southern Highland zone), Mtwara and Tandahimba (Southern zone) to identify risk factors associated with small ruminants exposure to *Mycoplasma capricolum* subsp. *capripneumoniae* (*M. capripneumoniae*) the causative agent for contagious caprine pleuropneumonia (CCPP) and small ruminant morbillivirus (SRMV) the causative agent for peste des petits ruminants (PPR) and to determine the prevalence of these infections in the respective districts. Outbreak investigations in the southern highlands, eastern, central, lake and northern zones were conducted to validate the performance of the existing disease surveillance system, improved reporting system and to evaluate the accuracy of the reports. The investigation involved collection of pathological samples and clinical reports to determine the level of concurrent infections in outbreaks of diseases presenting with respiratory signs.

The results of the cross-sectional survey indicated that mixing of flocks was a significant risk factor for goat's exposure to *M. capripneumoniae*, SRMV and to both *M. capripneumoniae* and SRMV (LRT: $\chi^2=4.9$, $p = 0.03$; LRT: 12.4, $p = 0.0004$; LRT: $\chi^2 = 5.2$, $p = 0.02$), respectively. Seropositivity of sheep to PPR was associated with a previous history of outbreaks (LRT: $\chi^2= 2.8$, $p = 0.05$) and age (LRT: $\chi^2= 10.2$, $p = 0.006$). In outbreak investigations, both field data form one (FD-1) and field data form two (FD-2) had low positive predictive values (PPV), although FD-2 performed better than FD-1 in the diagnosis of both CCPP (PPV = 22.2% Vs 16.2%) and PPR (PPV = 50.0% Vs 43.2%) in goats. Similarly, in sheep, FD-2 performed better than FD-1 in the diagnosis of PPR (PPV = 26.3% Vs 23.1%). In determining concurrent infections, 79.1% (117/148) of the goats and 28.1% (16/57) of the sheep had

concurrent infections. In goats, PPR and pneumonic pasteurellosis were involved in many concurrent infections whereas in sheep, PPR was the predominating disease in many concurrent infections. Exposure of small ruminants to *M. capripneumoniae* and SRMV was influenced by cohabitation and communal grazing. Their diagnosis is complicated as a result of involvement of other mycoplasmas and opportunistic bacteria, and lack of diagnostic facilities at field level. The use of improved field surveillance forms demonstrated improvement in diagnosis of field outbreaks by producing reports that closely resemble laboratory diagnosis, and hence, informed formulation of proper control strategies.

You Are All Welcome

Best Regards



Dr. Ernest Mbega

A.g. Dean School of Life Sciences and Bioengineering