



EPIZONE

**BOOK of
ABSTRACTS**

**15th EPIZONE
Annual Meeting
*New Perspectives
for the new Era***

**Novi Sad, Serbia
April 26-28, 2023**

Hosted by Scientific Veterinary Institute "Novi Sad", Novi Sad, Serbia



Welcome



Dear EPIZONE friends,

It is our great pleasure to welcome you to the **15th Annual Meeting of EPIZONE**. The meeting will be held from 26-28 April 2023 in Novi Sad, Serbia, hosted by the Scientific Veterinary Institute "Novi Sad", the Serbian National Research Institute for Animal Health.

The theme of the EPIZONE 15th Annual Meeting will be "**New perspectives for the new era**", referring to the post-COVID time, when everything seems to be different in the world, and the aim of EPIZONE2023 is to point out what are important issues within the field of epizootic diseases research and control today.

The focus is on current research efforts in the field of epizootic animal diseases of livestock, i.e. different animal species, but also wildlife. Respected keynote and invited speakers will be chosen to give abroad perspective, up to date knowledge and the current overview of situation for different epizootic and emerging diseases. Special attention is given to African swine fever and Avian influenza due to their unfavourable epizootic situation and devastating influence on animal health and welfare, public health and economy.

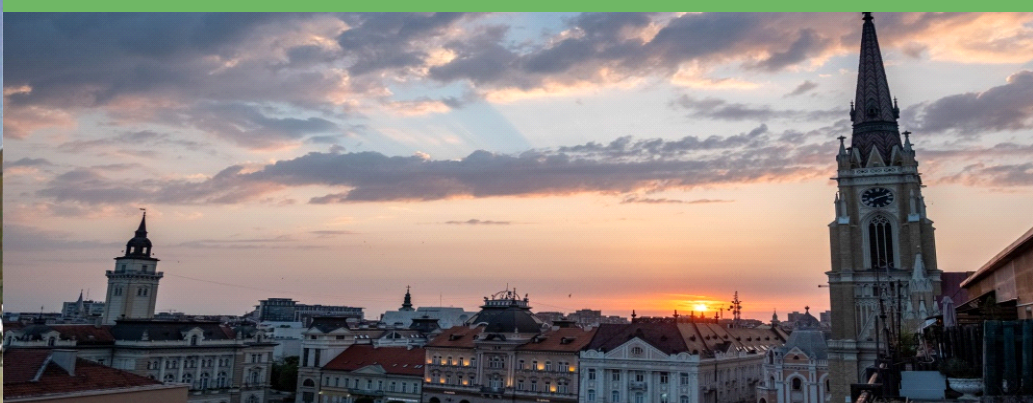
As usual, the meeting shall bring together an outstanding and diverse group of experts from basic to applied science in order to encourage scientific exchange and to establish new contacts and collaborations. Also, the Young EPIZONE group will organize an attractive programme for young scientists in the field of epizootic diseases.

The city of Novi Sad is a multicultural town with rich history and being the European Capital of Culture in 2022 has a lot to offer to our participants.

We are looking forward to hosting you in our beautiful city on the river Danube!

Wim van der Poel
EPIZONE ERG Coordinator

Tamaš Petrovic
President of the Organizing Committee of EPIZONE2023



Organizers

The 15th EPIZONE Annual Meeting
is organized by:

**The Scientific Veterinary Institute “Novi Sad”
Novi Sad, Serbia**
<https://niv.ns.ac.rs/>

EPIZONE ERG
www.epizone-eu.net



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P63. Pathology associated with highly pathogenic avian influenza H5N1 in naturally infected birds in Serbia in the 2021/2022 epidemiological year

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The highly pathogenic avian influenza (HPAI) epidemic in the 2021/2022 epidemiological year was the most widespread in Europe, and HPAI H5N1 was by far the predominant virus type reported. In Serbia, since early 2021 and 2022, multiple outbreaks of HPAI have occurred. The H5N1 subtype was also dominant during this epizootic, although a few cases of H5N8 subtype infection were reported in mute swans. This epizootic affected backyard chickens (3 outbreaks), and the virus was also detected in wild birds, mostly in mute swans (4 outbreaks). All cases were reported in the north of Serbia. Here we describe the pathological findings of natural HPAI H5N1 infection in poultry species (chickens and turkeys) and wild birds (mute swans) that died during this epizootic. Routine necropsies were carried out on the carcasses of 15 mute swans, 15 chickens, and four turkeys. The external body and internal organs were examined grossly, and the gross pathology was recorded and photographed. Body condition was estimated based on the amount of body fat and musculature. Tissue samples of the brain, pancreas, spleen, and lungs were collected, and the supernatants of the tissue homogenates were used for molecular diagnosis by RT-qPCR method. The affected birds showed nervous manifestations (abnormal head position, tremors, leg paralysis) and all birds were in good condition. The presence of influenza virus was detected in tissue samples of all tested animals. The external macroscopic changes included cyanosis and necrosis in the crest and wattle, and these lesions were more pronounced in chickens. In mute swans, there were no external lesions. The H5N1 HPAI virus produced several consistent gross lesions among the species investigated. Foremost among these lesions was: multifocal pancreatic necrosis and hemorrhages, petechial hemorrhages in coelomic and epicardial fat and epicardial petechiae. The lungs showed moderate (turkeys) to severe (chickens and mute swans) diffuse congestion and oedema. In most cases, mild splenomegaly and spleen necrosis were noted. Additionally, gizzard or proventricular lesions were not observed in any bird. The natural HPAI H5N1 infection in poultry and mute swans showed similar clinical disease, including neurological disorders, as well as similar pathologic presentation involving necrotic lesions and vascular damage, primarily affecting the pancreas and myocardium. Evaluating the pathological presentation of natural disease is particularly important in emerging infectious diseases such as influenza A virus, in which different strains can have different pathogenicity and clinical presentations.

Keywords: avian influenza, H5N1, pathology, Serbia

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