

# Prion Diseases in Animals



Oral Communications  
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## Chronic wasting disease risk assessment in Portugal - Genetic variability preliminary results and future perspectives.

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Chronic Wasting Disease (CWD) belongs to the family of Transmissible Spongiform Encephalopathies (TSEs), specific to cervids, and characterized by an infectious, misfolding of the prion protein (PrP<sup>C</sup>) into a protease-resistant form (PrP<sup>Sc</sup>). Originated and widespread in the North America, the presence of this prion disease is nowadays recognized in 25 states of the USA, Canada, South Korea and, in 2016, reached Europe through Norway. Red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*) and fallow deer (*Dama dama*) are three of the cervid species found in Portugal. Although there hasn't been reported any positive case of CWD in Portuguese populations, examples of TSEs outbreaks in bovine, sheep and goats together with co-habitation areas between these species, suggest that caution should be taken once exposure and contact with prions can occur. The study of susceptibility/resistance of cervids to CWD is essential to define its risk of dissemination/development as well as its potential as prion reservoir. The estimation of genetic variability in the prion protein (*prnp*) gene is one of the methodologies used to predict that certain populations are less susceptible to infection than others. In this way a synergistic collaborative project (Project 029947IC&T 02/SAICT/2017-SAICT) was established between the University of Trás-os-Montes and Alto Douro (UTAD), the National Institute for Agricultural and Veterinary Research (INIAV) and the Polytechnic Institute of Castelo Branco (IPCB) with the aim of evaluating the risk of a potential occurrence of CWD in cervid Portuguese populations. Here we present for the first-time preliminary results about the genetic variability of CDS region *prnp* gene in *Cervus elaphus* and *Dama dama* individuals from Portugal.