GENETICS

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WHERE IT MEETS MEDICINE: PETSCAN, WHERE ARE WE NOW?

Breed specific health issues are the most frequently occurring problems in companion animal populations worldwide. Internationally, initiatives are undertaken to tackle these problems. Within the Netherlands, the Expertise Centre Genetics of Companion animals has the ambition to eradicate hereditary diseases from the companion animal population.

The Expertise Centre Genetics of Companion Animals (ECGG) was founded in 2014 and is a research and education centre which focuses on hereditary diseases and congenital disorders of companion animals. It contributes to improving the health of purebred dogs and cats in the Netherlands through quantification of disease incidence within populations and develop solutions for a healthy breeding strategy.

Although heritable diseases and harmful breed characteristics are very important from a social, veterinary and comparative biomedical perspective, quantitative insight is lacking. The clinical, epidemiological and molecular genetic aspects that play a role have never been compared to one another for the Dutch breed populations. Yet this is vital in order to deal with the 'purebred dog problem'. Veterinarians can only advise breeders on how to breed in a healthier and focused manner if they know which diseases occur at what frequency, and what diagnostic options are available.

The Expertise Centre Genetics of Companion Animals combines the needed multi-disciplinary knowledge and infrastructure within the Faculty of Veterinary Medicine's Department of Clinical Sciences of Companion Animals. It brings together knowledge of clinical genetics, population genetics and molecular genetics. Together with primary-care veterinarians, we can optimally supervise the breeding of purebred animals. The ambition is to provide a real contribution to improving the health of purebred dogs and cats in the Netherlands.

The Expertise Centre's integrated approach includes PETscan, a software system developed for the measurement of the incidence of diseases among companion animals in The Netherlands in order to objectively identify and prioritize the heritable diseases and harmful breed characteristics within pet populations.

In the lecture "Where IT meets Medicine" the development of the first version of PETscan is explained and put in an international perspective. The challenges and future potential of population data will be discussed.

Preliminary data will be shown on the demography of the database population, as well as new information on three popular breeds: the Chihuahua, French bulldog and Labrador retriever.

Recently, PETscan 2.0 became available. Behind the scenes as well as for the software-users the whole system has been upgraded. A case example will be used to explore the multiple features designed to support the veterinarian in practice.

There will be ample time to answer questions from potential and current users of PETscan.