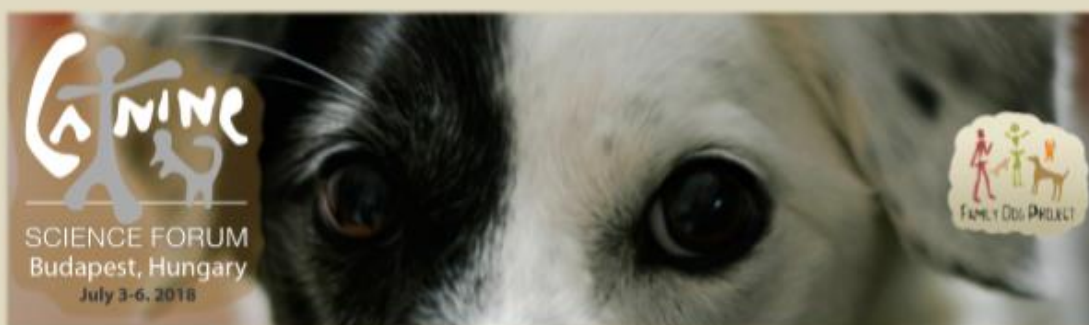




## 6th Canine Science Forum

# Abstract Book



**Senior Family Dog Project: studying cognitive ageing in dogs using an interdisciplinary approach**

Kubinyi Enikő<sup>1</sup>, Szabó Dóra<sup>1</sup>, Wallis Lisa J<sup>1</sup>, Iotchev Ivaylo<sup>1</sup>, Sándor Sára<sup>1</sup>, Czeibert Kálmán<sup>1</sup>, Egerer Anna<sup>1</sup>, Bognár Zsófia<sup>1</sup>, Tátrai Kitti<sup>1</sup>, Turcsán Borbála<sup>1</sup>, Piotti Patrizia<sup>1</sup>

<sup>1</sup>Eötvös Loránd University, Department of Ethology, Budapest, Hungary

Ageing, the process of becoming old, affects every organ. However, adapting to changes in the body is possible as long as the brain remains healthy. Therefore, ageing research needs to focus on healthy brain ageing, or in other words, on successful cognitive ageing.

In the Senior Family Dog Project (SFDP) our aim is to explore the cognitive ageing of family dogs in a complex way, using an interdisciplinary approach with behavioural, neuroscientific, and genetic testing methods. Since the launch of the Project in 2016 we designed a cognitive battery and a questionnaire to assess age differences in cognition, analysed demographic and personality changes with age, designed a behaviour test to measure age-related reactivity to visual and auditory stimuli, conducted an intervention study (intervention: 3 months cognitive therapy/physiotherapy) on old dogs, started a genome-scale analysis of Methuselah dogs (17-27 years old) to search for putative longevity variants, established the Canine Brain and Tissue Bank, investigated the role of autophagy-related genes in neural ageing in samples provided by the Tissue Bank; developed a detection method for sleep spindles (promising EEG markers of aging and cognition), set up the methodological background to study rs-fMRI networks of ageing dogs, and investigated age-related changes in brain morphology.

Although we detected significant age-related deterioration of brain and brain function even in healthy dogs, ageing has a bright side as well. Older dogs are calmer and more knowledgeable, and in association with these traits they were reported by owners as more often dominant over younger individuals when kept in groups.

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The results of the SFDP are expected to provide guidelines for a healthy lifestyle towards successful ageing, to increase both canine and owner welfare, and to aid our understanding of the biological background of human cognitive ageing.

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