



**University of
Zurich**^{UZH}

Department of Evolutionary Biology
and Environmental Studies

BEEES (Behavior, Ecology, Environment and Evolution Seminar)

A deep-learning solution to automated measurements of morphological traits in the wild

Speaker:	Dr. André Ferreira IEU, UZH
Date/Time:	Thursday, 2024-05-02 12:15 to 12:37
Place:	Y03-G-95/UZH Irchel Winterthurerstr. 190; 8057 Zürich
Access:	only intern
Host:	Damien Farine

Abstract:

The study of evolution requires monitoring phenotypic traits and their changes over time. However, collecting large-scale morphological data represents a barrier. This is because measuring animals in the wild is costly, raises ethical concerns and is susceptible to inter- and intra-observer variability, as well as human errors in measurement. These factors hinder large-scale cross-populations and within-population comparisons. Advances in artificial intelligence (AI) offer new opportunities for overcoming these challenges. We developed a setup that combines AI with cameras to collect pictures of wild birds and automatically determine morphological measures from those pictures. Our method performs similarly to human manual measures on a picture-based evaluation, but surpasses the human performance in enabling many more measures on the same birds that can be taken without needing to capture them.

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