

# Physiological perspectives via wildlife telemetry; the natural history of diving in seals

## Prof. Michael Fedak

Sea Mammal Research Unit, University of St. Andrews

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<https://zoom.us/j/91737090338>

Theodosius Dobzhansky said, “Nothing in biology makes sense, except in the light of evolution”. This is very true, but I would like to add an additional perspective of my own and say that nothing in evolution makes sense except when considered in relation to the life history of the organism. For me, life history is where the rubber of the organism’s characteristics meets the evolutionary road. It is only in the context of natural history that we can understand the importance and meaning of any of the organism’s characteristics, across all levels from their biochemistry to their social behaviour. My interest in natural history of seals has driven my interest in their behavioural and energetic requirements on land and their



subsequent diving and foraging activities when they leave the land to gather the resources they need. Once they leave their breeding sites, they are completely inaccessible to observation. This led me to initiate and guide the development of a range of telemetric devices to study seals at sea and build visualization tools to help us comprehend the complex data they collect. It also motivated my development of animal borne oceanographic instruments to study their immediate environment at an appropriate temporal and spatial scale, and in the process, develop a new cost-effective approach to ocean observation that is informing operational ocean and weather forecasters as well as providing freely available high-resolution data for oceanographers.

In this talk, I hope to discuss the life history of elephant seals, and to consider the extreme morphology, physiology and sensory capabilities that help them gather the resources they need in the distant, deep, dark and dynamic realm where they feed.

[maf3@st-andrews.ac.uk](mailto:maf3@st-andrews.ac.uk)

<http://www.smru.st-andrews.ac.uk/person/maf3/>