

Application of bio-logging technology in research of behavior,
ecology, physiology and oceanography

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Bio-logging technology has revitalized ethology (i.e., study of animal behavior). In this talk, I will present how marine animals move to foraging areas in apparently featureless oceanic environment and how they resolve behavioral and physiological trade-offs. First, I focus on the question of where marine top predators such as northern elephant seals and streaked shearwaters favor as foraging grounds at the large- and small-spatiotemporal scales, respectively, using animal-borne Argos and GPS systems. In the course of this, drift movements of GPS-tracked shearwaters at the sea surface are used as a ocean current meter at the small scales. Second, I will present telomere dynamics (the rate at which telomere changes over time) in black-tailed gulls that change with the degree of environmental stress exposure. I show telomere dynamics of the gulls in the field and discuss the full spectrum from cell to behavior in different environmental conditions recorded by bio-logging techniques.