



Seewiesen Colloquia

Speaker invited by Research Group Rattenborg

Thursday, 7 April 2016, 13:00 h, in House 4, Lecture Room

Foraging ecology of seabirds

Dr. Henri Weimerskirch
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During the first part of my talk I will briefly introduce my research interests over the past years, especially on the use of seabirds as sentinel of climate change in the Southern Ocean, and on the changes over lifetime in the foraging strategies of seabirds. During the second part, I will focus on recent findings on the flight of frigatebirds. The spatial scale at which animals respond to atmospheric conditions is critical to understanding the evolution of flight strategies and long distance migrations. We studied three dimensional movements and energetics of frigatebirds and showed that they can stay aloft for months, making multiple trans-oceanic flights. To achieve this performance at an ocean-wide scale frigatebirds track the edge of the doldrums to take advantage of favorable wind and strong convection. At a small scale they use a roller-coaster flight relying on thermals and wind to soar within a 50-600m altitude band under cumulus clouds and then glide at low costs over kilometers. Birds regularly soar inside cumulus clouds to use strong updraft occurring, and reach altitudes of 4000m where freezing conditions occur. With their extreme movement strategy frigatebirds encounter several atmospheric challenges that make them very susceptible to climate variability.

Who is Henri Weimerskirch?

1984 PhD University of Montpellier, France

1986 Researcher CNRS Chizé

2000 Director of Research CNRS, Head Marine predator Group, CNRS Chizé

Selected publications:

- Weimerskirch H., Delord K., Guitteaud A., Phillips R.A. & Pinet P. 2015. Extreme variation in migration strategies between and within wandering albatross populations during their sabbatical year, and their fitness consequences. **Scientific Reports** 5, 8853; DOI:10.1038/srep08853.
- Weimerskirch H., Cherel Y., Delord K., Jaeger A. Patrick S.C. & Riotte-Lambert. L. 2014. Lifetime foraging patterns of the wandering albatross: life on the move. Special Issue Marine Megafauna. **Journal of Experimental Marine Biology and Ecology** 450: 68-78.
- Riotte-Lambert L. & Weimerskirch H. 2013. Do naïve juvenile seabirds forage differently from adults? **Proceedings of the Royal Society B** 280: 20131434.
- Weimerskirch H., Louzao M., de Grissac S. & Delord K. 2012. Changes in wind pattern alter albatross distribution and life history trait. **Science** 335: 211-214.