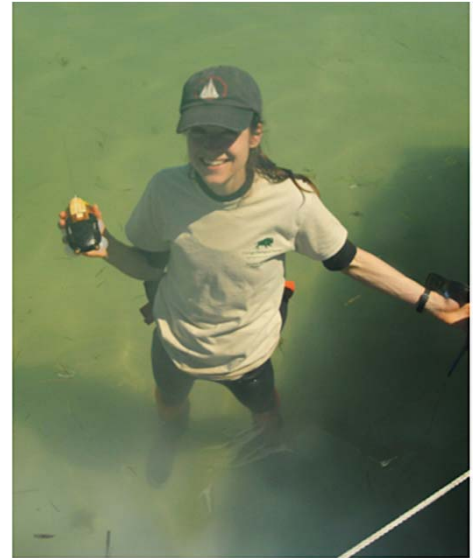


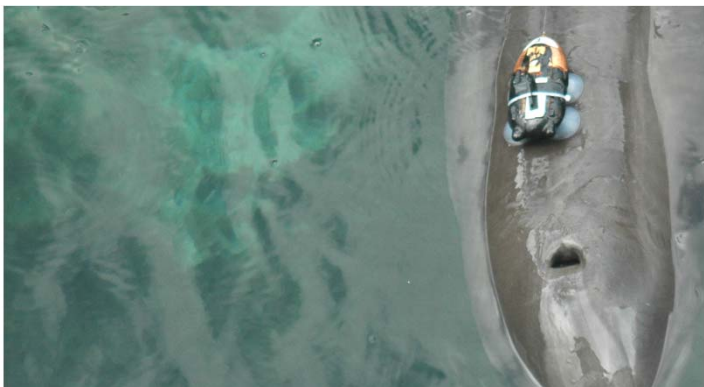
## Pulmonary ventilation of cetaceans measured with acoustic bio-logging tags

Julie van der Hoop

*Zoofysiology, Aarhus University*



Few existing methods estimate energy expenditure in free-ranging animals at high enough spatial and temporal resolution to assess response to specific events. Bio-logging tags can provide insight into the lives of cryptic animals, and allow for estimates of both energy outputs and inputs. Acoustic and inertial sensors also record each lung ventilation, and so offer a long-term, relative measure of energy turnover across orders of magnitude in size. To improve short-term energetic estimates from ventilation, we have developed a new method to estimate respired airflow rates and volumes from recorded sounds. This method provides remotely sensed, dynamic estimates of tidal volume, and changes thereof, in the context of specific stressors, with simultaneous measurements of animal orientation and diving behaviour. I will describe how this method improves estimates of energetic costs of detected behavioral changes.



Tuesday May 29th 2018 at 10.15  
Seminar room at Zoophysiology