



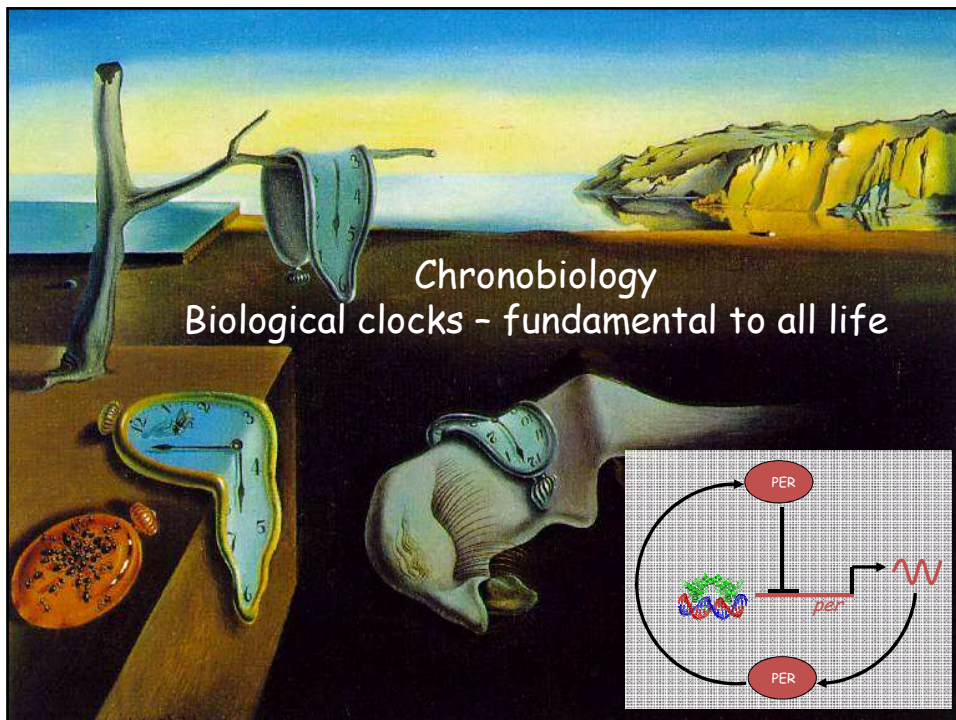
**Changing Arctic Ocean** NERC

# Chronobiology of changing Arctic Sea Ecosystems (CHASE)

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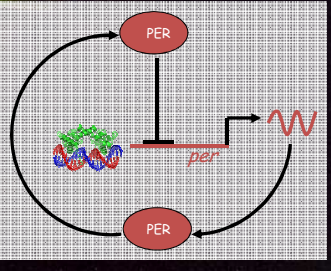


SCOTTISH ASSOCIATION for MARINE SCIENCE



## Chronobiology

Biological clocks - fundamental to all life





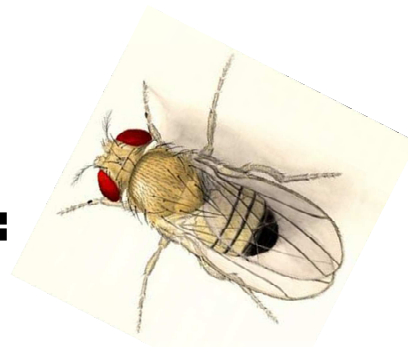
## Aims of CHASE

- Understand the effects of extreme photoperiods on behaviour, physiology and gene expression of copepods and krill;
- Understand the consequences of thermal/photoperiodic mismatch;
- Determine the role of photoperiod in diapause initiation in copepods.



Copepods *Calanus finmarchicus*

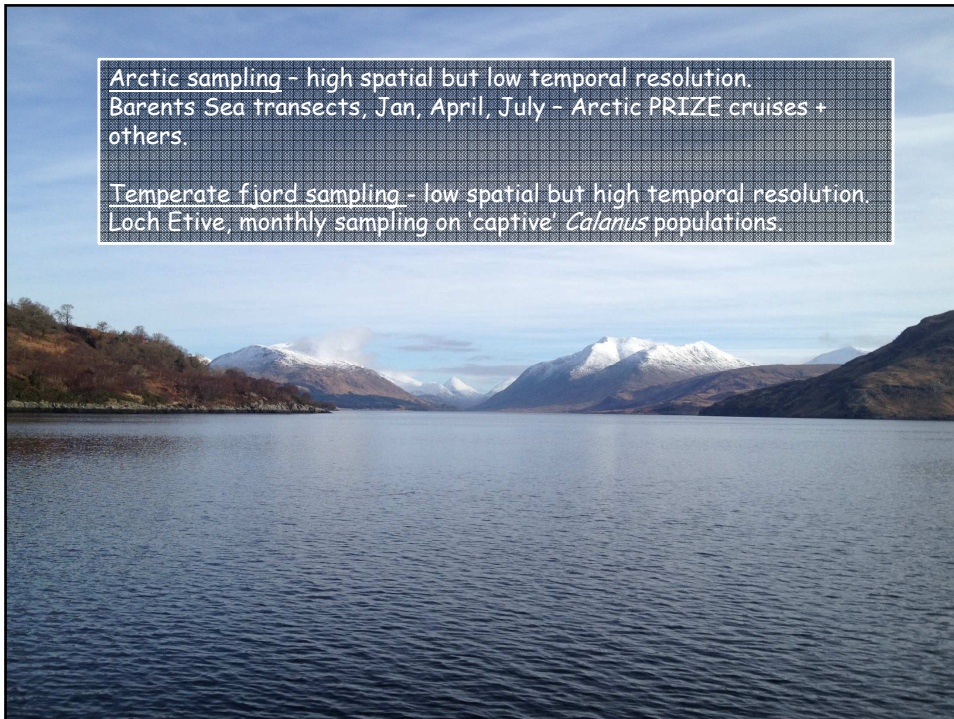
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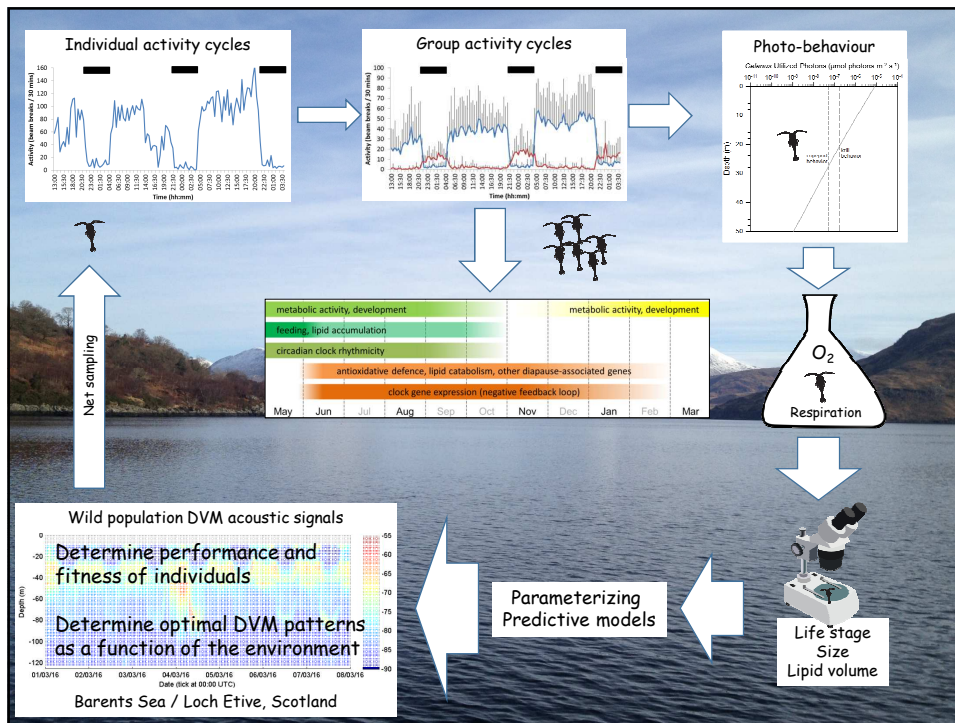


Fruit fly *Drosophila melanogaster*

Arctic sampling - high spatial but low temporal resolution.  
Barents Sea transects, Jan, April, July - Arctic PRIZE cruises + others.

Temperate fjord sampling - low spatial but high temporal resolution.  
Loch Etive, monthly sampling on 'captive' *Calanus* populations.





## The CHASE Team

**Modelling**  
Geraint Tarling (BAS)  
Juergen Groeneveld (Dresden)  
Laura Hobbs (Strathclyde/SAMS)  
Neil Banas (Strathclyde)

**Arctic Ecology**  
David Pond (Stirling) - PI DIAPOD  
Jørgen Berge (UiT / UNIS)  
Janne Soreide (UNIS)  
Malin Daase (UiT)

**Biophysical coupling**  
Finlo Cottier (SAMS) - PI PRIZE

**Light and biology**  
Jonathan Cohen (Delaware)

**Behaviour and physiology**  
Kim Last (SAMS)  
David Wilcockson (Aberystwyth)

**Clock genes / biology**  
Bettina Meyer (AWI/Oldenburg)  
Sören Häfker (AWI/Oldenburg)  
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