

IASC workshop on Internal Mixing Processes in the Arctic Ocean
Carriage House, Woods Hole Oceanographic Institute

Co-sponsored by WHOI & FMI

Conveners: Bert Rudels, Sheldon Bacon, Thomas Haine, Barry Ruddick, Michael Spall

Programme

Monday 21/10

8:30 *Bus from Falmouth (Holiday Inn) to WHOI*

9:00 Welcome, introduction, why are we here etc.

9:15 – 12:00 The Upper Ocean Chair: Bert Rudels

9:15 – 10:00

Observations of turbulence in the upper ocean and its importance for the heat flux to sea ice.

Takashi Kikuchi

10:00-10:30 *Coffee*

10:30 – 11:15

How ocean heat flux is melting sea ice?

Jari Haapala

11:15 – 12:00

Sea ice formation and brine rejection.

Andrew Wells

12:00 – 13:00 *Lunch*

13:00 – 17:15 Mixing in the interior Chair: Bert Rudels

13:00 – 14:00

Double-diffusive interfaces, their formation, extent and possible importance for the vertical heat flux.

Laurie Padman

14:00 – 15:00

Intrusions and interleaving.

Barry Ruddick

15:00-15:30 *Coffee*

15:30 – 16:15

Observation of mixing processes in the interior of the Arctic Ocean.

Luc Rainville

16:15 – 17:00

Meso-scale eddies and their role in property redistribution.

Wieslaw Maslowski

17:30 *Bus to Falmouth*

Tuesday 22/10

8:30 *Bus from Falmouth to WHOI*

9:00 – 12:30 **Mixing at the boundaries and interaction with the interior** *Chair: Sheldon Bacon*

9:00 – 9:45

Observations of mixing processes present at the continental slopes of the Arctic Ocean.

Yueng-Djern Lenn

9:45 – 10:30

Dynamics of and entrainment into thin, dense boundary currents descending from the shelves into the deep basins.

Lars Umlauf

10:30 – 11:00 *Coffee*

11:00 – 11:45 *Chair: Mary-Louise Timmermans*

Stability of the boundary current and eddy formation.

Mike Spall

11:45 – 12:30

Un-mixing and the creation of new temperature and density differences in the ocean.

Benoit Cushman-Roisin

12:30 – 13.30 *Lunch*

13:30 – 17:30 **The large-scale picture** *Chair: Sheldon Bacon*

13:30 – 14:15

Relation to large scale circulation, heat and freshwater transports & Relation to modeling: processes and parameterization.

Andrey Proshutinsky

14:15 – 14:30

The Arctic Ocean under ice: Ekman veering, internal waves, turbulence

Sylvia Cole

14:30 – 15:00 *Coffee*

15:00 – 16:00

The Arctic Climate – a balance between local radiation, advected heat and freshwater

Bert Rudels (*Physical Oceanography Seminar*)

16:00 – 16:30

What have we missed – input from the Norbert Untersteiner workshop in Fairbanks.

Laurie Padman & Barry Ruddick

16:30 – 17:30

General Discussion

Where do we go from here? What processes are important? How can knowledge be improved?

Which priorities should be set?

17:30 **Workshop ends**

18:00 *Bus to Falmouth*

