

# Colloquium Talk

Prof. Geoffrey Vallis

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## A Theory for the Meridional Overturning Circulation of the Ocean

Wednesday, January 31, 2018

at 14:30 h

ESI, Boltzmann Lecture Hall

**Abstract:** I will present a theory of the oceanic Meridional Overturning Circulation and associated deep stratification. The theory includes the effects of wind, eddies, and diapycnal mixing, and predicts the deep stratification and overturning streamfunction in terms of the surface forcing and other parameters of the problem. The theory describes both the middepth and abyssal cells of an overturning circulation representing North Atlantic Deep Water and Antarctic Bottom Water. The theory makes explicit predictions about how the stratification and overturning circulation vary with the wind strength, diapycnal diffusivity and mesoscale eddy effects.

A. Constantin

January 11, 2018