



UNIVERSITÀ DEGLI STUDI DI GENOVA

**SCUOLA DI DOTTORATO DI SCIENZE E TECNOLOGIE PER  
L'INGEGNERIA**

**Dottorato in Fluidodinamica e Processi dell'Ingegneria Ambientale**

## **AVVISO DI SEMINARIO**

# **“The importance of small scales on mixing and transport of substances at sea”**

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Tuesday November 19, 2013 – 12:00  
Scuola Politecnica, Villa Cambiaso  
Aula A11 - DICCA

We present several high-resolution observations and numerical studies in the ocean. The focus is on the role played by small scale structures on mixing and transport of different substances at sea. Different locations are considered.

In the area between Southeastern Greenland and Iceland - the so-called Irminger Sea - recently-discovered small scale currents have a big impact in the creation of new dense water classes in the North Atlantic and, consequently, on the global thermohaline circulation.

In the Mediterranean Sea, small scale motions are identified by Lagrangian drifter data and only partially resolved by the new high-frequency coastal radar observations. We show that their neglect has strong implications for forecasting trajectories and introduce a Lagrangian assimilation method to take them into account. We finally comment on the common efforts with the University of Genoa to assess these problems in future projects.

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