

Workshop on
“Mathematical Aspects of Geophysical Flows”

January 20 - 24, 2020

organized by

Adrian Constantin (U Vienna), George Haller (ETH Zürich)

• **Monday, January 20th, 2020**

09:00 – 09:30 **Registration and Welcome**

09:30 – 10:30 **Robin S. Johnson (U of Newcastle)**

On the use of the thin-shell approximation for modelling atmospheric flows

10:30 – 11:00 **Coffee / Tea Break**

11:00 – 12:00 **George Haller (ETH Zürich)**

Material barriers to active transport

12:00 – 13:00 **David Dritschel (U St. Andrews)**

Two-dimensional models of a rotating shallow fluid layer

13:00 – 14:30 **Lunch Break**

14:30 – 15:30 **Anatoly Abrashkin (HSE, Nishny Novgorod)**

Large Oceanic Gyres: Lagrangian Description

15:30 – 16:00 **Coffee/Tea Break**

16:00 – 16:30 **Miklos Vincze (ELTE Budapest)**

Climate impact of the Drake Passage opening: lessons from a minimalistic laboratory experiment

• **Tuesday, January 21st, 2020**

09:30 – 10:30 **Joe LaCasce (U Oslo)**

Topographic effects on large scale ocean flows

10:30 – 11:00 **Coffee / Tea Break**

11:00 – 12:00 **Francisco J. Beron-Vera (U Miami)**

Inertial ocean dynamics

12:00 – 13:00 **Rossen I. Ivanov (Dublin Institute of Technology)**

Equatorial wave - current interactions

13:00 – 14:30 **Lunch Break**

14:30 – 15:30 **Thomas Bartsch (U Giessen)**

Periodic solutions of the point vortex Hamiltonian system in domains

15:30 – 16:00 **Coffee/Tea Break**

16:00 – 16:30 **Nikolas Aksamit (ETH Zürich)**

Machine-Learning Mesoscale and Submesoscale Surface Dynamics from Lagrangian Ocean Drifter Trajectories

16:30 – 17:00 **Stergios Katsanoulis (ETH Zürich)**

Vortex boundaries as barriers to diffusive vorticity transport in two-dimensional flows

- **Wednesday, January 22nd, 2020**

09:30 – 10:30 **Adrian Constantin (U Vienna)**

Frictional effects in wind-driven ocean currents

10:30 – 11:00 **Coffee / Tea Break**

11:00 – 12:00 **Branko Grisogono (U Zagreb)**

On meso- and micro-scale atmospheric flows

- **Thursday, January 23rd, 2020**

09:30 – 10:30 **Maria Orlascoaga (U Miami)**

Observed Inertial Ocean Dynamics

10:30 – 11:00 **Coffee / Tea Break**

11:00 – 12:00 **Imre M. Janosi (ELTE Budapest)**

Single super-vortex as a proxy for geostrophic ocean surface flow fields

12:00 – 13:00 **Takashi Sakajo (U Kyoto)**

Vortex dynamics on the sphere

13:00 – 14:30 **Lunch Break**

14:30 – 15:00 **Sandor Balazs (Budapest University of Technology)**

Topography effects on the vorticity equilibrium in shallow-fluid formalism

15:00 – 15:30 **Coffee/Tea Break**

15:30 – 16:00 **Daniel Karrasch (TU München)**

Lagrangian perspectives on advection-diffusion transport in the low-diffusivity limit

- **Friday, January 24th, 2020**

09:30 – 10:30 **Nathan Paldor (Hebrew University)**

A lagrangian view of evaporation from the ocean

10:30 – 11:00 **Coffee / Tea Break**

11:00 – 12:00 **Tamas Tel (ELTE Budapest)**

On the theory of parallel climate realizations

All talks take place at ESI Boltzmann Lecture Hall!