

Workshop of the
Thematic Programme on
“The Dynamics of Planetary-scale Fluid Flows”

May 22 - 24, 2023

organized by

**Adrian Constantin (U of Vienna), David Dritschel (U of St. Andrews),
Nathan Paldor (HU of Jerusalem)**

- **Monday, May 22nd, 2023**

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

09:30 – 10:15 **William Dewar (Florida State U, Tallahassee)**

North Atlantic Spectra Viewed Through an Ensemble

10:15 – 10:45 **Coffee break**

10:45 – 11:30 **Vladimir Zeitlin (ENS)**

Small is beautiful: understanding dynamics of tropical atmosphere with moist-convective rotating shallow water models

11:30 – 12:15 **Xavier Carton (U Brest)**

The dynamics of oceanic vortices

12:15 – 14:00 **Lunch break**

14:00 – 14:45 **Nathan Paldor (HU of Jerusalem)**

Wind-driven transport at the ocean surface: Beyond the f -plane

14:45 – 15:30 **Richard Scott (U of St Andrews)**

The limits of beta plane turbulence

15:30 – 16:00 **Coffee break**

16:00 – 16:45 **Edward Johnson (U College London)**

Dipolar geophysical vortices

- **Tuesday, May 23rd, 2023**

09:30 – 10:15 **Vered Rom-Kedar (Weizmann Institute, Rehovot)**

Modeling density driven flows in the presence of chaotic advection.

10:15 – 10:45 **Coffee break**

10:45 – 11:30 **David Dritschel (U of St Andrews, UK)**

Wavy jets and potential vorticity staircases

11:30 – 12:15 **Marcel Oliver (KU Eichstätt)**

Quasi-convergence of optimal balance by nudging

12:15 – 14:00 **Lunch break**

14:00 – 14:45 **Robin S. Johnson (U Newcastle upon Tyne)**
Nonlinear atmospheric waves with application to the ‘morning glory’

14:45 – 15:30 **Jean-Pierre Croisille (U Lorraine)**
Finite difference schemes for several partial differential equations for the atmosphere and the ocean

15:30 – 16:00 **Coffee break**

16:00 – 16:45 **Joe LaCasce (U Oslo)**
Vortices over bathymetry

• **Wednesday, May 24th, 2023**

09:30 – 10:15 **Ofer Shamir (CIMS, New York)**
The Matsuno-Gill model on the sphere

10:15 – 10:45 **Coffee break**

10:45 – 11:30 **Matania Ben-Artzi (HU of Jerusalem)**
Nonlinear Hyperbolic Conservation Laws on Manifolds

11:30 – 12:15 **Pierre Germain (Imperial College London, UK)**
Stratospheric planetary flows from the perspective of the Euler Equation on a rotating sphere

12:15 – 14:00 **Lunch break**

14:00 – 14:45 **Ronald Quirchmayr (U Groningen)**
Exact Solutions and Internal Waves for the Antarctic Circumpolar Current

14:45 – 15:30 **Hao Zhu (Nanjing University)**
Dynamics near a shear flow with Coriolis force

15:30 – 16:15 **Dr. Yair De-Leon (HU of Jerusalem, Israel)**
Linear Instability on a zonal jet: Shear vorticity versus stretching vorticity

18:30 – 21:00 **Conference dinner**

All talks take place at ESI Boltzmann Lecture Hall!