Workshop on

"Nonlinear Water Waves - an Interdisciplinary Interface"

November 27 – December 7, 2017

organized by

David Henry (U College Cork), Konstantinos Kalimeris (RICAM, Linz), Emilian Părău (U of East Anglia), Jean-Marc Vanden-Broeck (U College London), Erik Wahlén (Lund U)

Week 2

December 4 – December 7, 2017

- **Monday, December 4, 2017**

  09:00 – 09:30 **Registration**

  09:30 – 10:30 **Boris Buffoni**
  Steady three-dimensional rotational flows: variational structure and Nash-Moser iteration

  10:30 – 11:00 *Coffee / Tea Break*

  11:00 – 12:00 **Mark Groves**
  Fully localised solitary gravity-capillary water waves

  12:00 – 14:00 *Lunch Break*

  14:00 – 15:00 **Mariana Haragus**
  Formation of Kerr optical frequency combs : a water waves bifurcation scenario

  15:00 – 15:30 *Break*

  15:30 – 16:30 **David Lannes**
  Survey lecture: *The water waves equations and asymptotics*

- **Tuesday, December 5, 2017**

  09:00 – 10:00 **Gareth Thomas**
  Prediction of the free-surface elevation for rotational water waves using the recovery of pressure at the bed

  10:00 – 10:30 *Coffee / Tea Break*

  10:30 – 11:30 **Ton van den Bremer**
  Experimental validations of various aspects of the wave-induced mean flow for surface gravity wave groups

  11:30 – 12:30 **Raphael Stuhlmeier**
  Evolution of statistically inhomogeneous degenerate water wave quartets

  12:30 – 14:15 *Lunch Break*

14:15 – 15:15 **Vera Hur**
Stokes waves with constant vorticity: numerical computation

15:15 – 15:45 *Break*

15:45 – 16:45 **Alan Compelli**
A KdV approximation of flat surface internal waves

- **Wednesday, December 6, 2017**

  09:30 – 10:30 **Guido Schneider**
  The KdV and the NLS equation on periodic metric graphs and relations to the water wave problem

  10:30 – 11:00 *Coffee / Tea Break*

  11:00 – 12:00 **Mats Ehrnström**
  Enhanced existence time in fractional KdV equations

  12:00 – 14:00 *Lunch Break*

  14:00 – 15:00 **Konstantinos Kalimeris**
  Non-local formulations for water waves

  15:00 – 15:30 *Break*

  15:30 – 16:30 **Ronald Quirchmayr**
  Singular traveling waves of a highly nonlinear shallow water equation

- **Thursday, December 7, 2017**

  09:30 – 10:30 **Eugen Varvaruca**
  Large-amplitude steady water waves with constant vorticity

  10:30 – 11:00 *Coffee / Tea Break*

  11:00 – 12:00 **Sam Walsh**
  Existence, nonexistence, and asymptotics of deep water solitary waves with localized vorticity

  12:00 – 14:00 *Lunch Break*

  14:00 – 15:00 **Delia Ionescu-Kruse**
  On the short-wavelength stabilities of some geophysical flows

  15:00 – 15:30 *Break*

  15:30 – 16:30 **Anna Geyer**
  Spectral stability of periodic waves in the generalized reduced Ostrovsky equation

All talks take place at ESI, Boltzmann Lecture Hall!