SEMINAR: Vortices, Skyrmions, Mobius strips: From Polaritons to Ocean Waves

KONSTANTIN BLIOKH

September 19, 2024
12:00 to 13:00
Seminar Room

Abstract:
I will present recent theoretical and experimental results on: (i) subwavelength high-intensity vortices around holes in 2D wave systems: from polaritons to ocean waves, (ii) generation of the Bessel-type vortices, displacement-field skyrmions, and polarization Mobius strips in sound and water waves, and (iii) manipulation of floating particles using topologic
lly structured water wav

Bio:
Konstantin Bliokh received the MSc and PhD degrees in physics from the Kharkov National University (Ukraine) in 1998 and 2001, respectively. After that, he worked as a research scientist at the Institute of Radio Astronomy (Ukraine, 2001-2009). He was a post-doctoral fellow at Bar-Ilan University (Israel, 2003-2005), a visiting research scientist at Technion-Israel Institute of Technology (Israel, 2007), a Linkage International research fellow at the Australian National University (Australia, 2008-2009), a Marie Curie research fellow at the National University of Ireland (Ireland, 2009-2011), an associate professor at the Australian National University (Australia, 2015-2019), and a senior research scientist at RIKEN (Japan, 2011-2024). Starting from 2024, he is an Ikerbasque Professor at the Donostia International Physics Center (Spain). His ongoing research areas include: complex wave systems, geometric phases, spin-orbit interactions, wave momentum and angular momentum, wave vortices, wave-matter interactions, etc. He has co-authored more than 130 scientific papers, reviews, and book chapters.

Hosted by: Georgia Papadakis