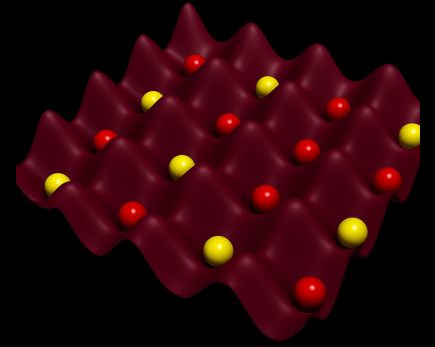


# Workshop on Unconventional Optical Lattices

# UOL2025

27-30 June, 2025 | Vilnius, Lithuania

Senate Hall, Old Campus of Vilnius University, Universiteto street 3, Vilnius



## PROGRAM

### DAY 1 | Saturday, 28 June

08:30 – 08:45 REGISTRATION

08:45 – 09:00 OPENING REMARKS

09:00 – 10:30 **SESSION 1**  
Chair: Gediminas Juzeliūnas (Vilnius University)

09:00 – 09:30 **A phase microscope for quantum gases**  
Christof Weitenberg (TU Dortmund University)

09:30 – 10:00 **Anyons in 1D: The anyon-Hubbard model and beyond**  
Andre Eckardt (TU Berlin)

10:00 – 10:30 **Quantized soliton pumping through topological edge state instabilities**  
Oded Zilberberg (University of Konstanz)

10:30 – 11:00 **COFFEE BREAK**

11:00 – 12:30 **SESSION 2**  
Chair: Ole Steuernagel (NTHU)

11:00 – 11:30 **Time-tronics: from temporal printed circuit board to quantum computer**  
Krzysztof Sacha (Jagiellonian University)

11:30 – 12:00 **Strongly Interacting Ultracold Few-Body Systems in Nanoscale Potentials**  
Thomas Busch (OIST)

12:00 – 12:30 **Optical lattices with orbital degrees of freedom**  
Andreas Hemmerich (Hamburg University)

12:30 – 14:00 **LUNCH**

14:00 – 16:00 **SESSION 3**  
Chair: Andre Eckardt (TU Berlin)

14:00 – 14:30 **Supersolidity of Ultracold Dipolar Bose Gas Triggered by Fermions**  
Mariusz Gajda (Institute of Physics PAS-IFPAN)

---

14:30 – 15:00 **Dipilar Ladder Models**  
Luis Santos (Leibniz University Hannover)

---

15:00 – 15:30 **Quantum Theory of Fractional Topological Pumping of Solitons**  
Michael Fleischhauer (University of Kaiserslautern-Landau)

15:30 – 17:15 **COFFEE BREAK & POSTER SESSION**

18:05 **Departure for CONFERENCE DINNER  
at Belmontas**

## **DAY 2 | Sunday, 29 June**

08:55 – 09:00 CONFERENCE INFORMATION

09:00 – 10:30 **SESSION 4**  
Chair: Thomas Busch (OIST)

09:00 – 09:30 **Condensate dynamics in higher bands of an optical lattice**  
Ludwig Mathey (University of Hamburg)

---

09:30 – 10:00 **Scaling multipartite entanglement in atomic systems: adagio vs. presto**  
Tommaso Roscilde (ENS de Lyon)

---

10:00 – 10:30 **COFFEE BREAK**

10:30 – 12:30 **SESSION 5**  
Chair: Mažena Mackoit (Vilnius University)

10:30 – 11:00 **Driven-dissipative supersolid gravimeter in a ring cavity**  
Karol Gietka (Universität Innsbruck)

---

11:00 – 11:30 **Ultracold atoms in a dark state of a  $\Lambda$  system: interaction of bosons**  
Mateusz Łacki (Jagiellonian University)

---

11:30 – 12:00 **Final remarks, discussions**

---

12:00 – 13:30 **LUNCH**

---

13:30 **Excursion to the Bell Tower of Church of St. Johns**

## **DAY 3 | Monday, 30 June**

11:40 **BUS DEPARTURE** from the Car Parking of the Old Campus of Vilnius University

---

12:30 – 14:00 **Lunch at HBH Restaurant**

---

14:15 – 14:50 Geographical Centre of Europe, Purnušškės

---

15:30 – 17:00 **Astronomical Observatory of Vilnius University, Lithuanian Museum of Ethnocosmology**

---

17:30 **DEPARTURE** to Vilnius

---

18:30 - 19:00 **ARRIVAL** at Vilnius