



BEC 

Celebrating 20 years  
of the Trento Center on  
**Bose-Einstein Condensation**  
2-3 November 2022

This year marks 20 years since the creation of the Trento Center on Bose-Einstein Condensation. The BEC Center is a joint initiative between the Istituto Nazionale di Ottica (CNR) and the Dipartimento di Fisica, Università di Trento. The activities of the BEC Center are funded by UniTrento and CNR, with a significant contribution from the Provincia Autonoma di Trento.

The BEC Center promotes theoretical and experimental research on the various phenomena associated with Bose-Einstein condensation, the physics of ultracold atomic gases, and related areas, such as solid state and condensed matter physics, quantum optics, quantum information and quantum technologies.

## 2 November 2022

Palazzo Paolo Prodi | via Tommaso Gar 14, Trento

15.30 Welcome and opening remarks

**Flavio Deflorian** (University of Trento)

**Maria Chiara Carrozza** (CNR)

**Francesco Saverio Cataliotti** (CNR-INO)

**Achille Spinelli** (Provincia Autonoma di Trento)

**Monica Baggia** (Comune di Trento)

**Richard Hall-Wilton** (FBK, Trento)

**Eric Cornell** (JILA, Boulder Colorado)

Session chair: **Iacopo Carusotto** (CNR-INO, Trento)

16.00 **Franco Dalfovo** (University of Trento)

*Twenty years of the BEC Center*

16.30 **Sandro Stringari** (University of Trento)

*Lev Pitaevskii and Trento*

17.00 Coffee break

Session chair: **Massimo Inguscio** (UCBM Roma, LENS Firenze)

17.30 **Wolfgang Ketterle** (MIT Cambridge, Nobel Prize Laureate)

*Lectio Magistralis From Bose-Einstein condensation to quantum simulators - a journey with many surprises*

## 3 November 2022

Sala Stringa, FBK | via Sommarive 18, Povo - Trento

Present and future research at the BEC Center

- 9.00 **Franco Dalfovo** (University of Trento)  
*Stochastic Gross-Pitaevskii equation for quantum gases at finite temperature*
- 9.30 **Stefano Giorgini** (University of Trento)  
*Quantum mixtures with Monte-Carlo methods*
- 10.00 **Gabriele Ferrari** (University of Trento), **Giacomo Lamporesi** (CNR-INO) and **Alessandro Zenesini** (CNR-INO)  
*10 years of experimental activity at the BEC Center: from Kibble-Zurek physics to spin dynamics in sodium condensates*
- 11.00 Coffee break
- 11.30 **Chiara Menotti** (CNR-INO)  
*Quantum Gutzwiller approach for the excitations in the Bose-Hubbard model*
- 12.00 **Philipp Hauke** (University of Trento)  
*High-energy physics at ultracold temperatures: what quantum simulation and quantum information can tell us*
- 12.30 Lunch
- 14.00 **Iacopo Carusotto** (CNR-INO)  
*Interdisciplinary activities at the crossroad of cold quantum matter, quantum optics and gravitation*
- 14.30 **Alberto Biella** (CNR-INO)  
*Taming and exploiting noise in open many-body quantum systems: research directions and challenges*
- 15.00 **Gianluca Rastelli** (CNR-INO)  
*Quantum coherent systems based on solid-state devices*
- 15.30 Coffee break
- 16.00 **Alessio Recati** (CNR-INO)  
*Lee-Huang-Yang Fluids: from liquid droplets to supersolidity*
- 16.30 **Sandro Stringari** (University of Trento)  
*Superfluidity in systems breaking translational invariance*



This event is possible thanks to the support from the University of Trento and the Consiglio Nazionale delle Ricerche (CNR).

We thank the Department of Humanities and the Bruno Kessler Foundation for their kind hospitality.

### Organization

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### Contacts

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