







## MultiSuper Network









# **SuperFluctuations 2022**

# Fluctuations and Highly Non Linear Phenomena in Superfluids and Superconductors

Padova Italy July 6-8, 2022

Università di Padova - Dipartimento di Fisica e Astronomia Galileo Galilei - Aula Magna Rostagni

Hybrid On-line and On-Site Conference

#### **Main Topics**

Fluctuations and BCS-BEC crossover: multicomponent and low dimensional systems,

spin-orbit coupling, FFLO states.

Novel Quantum Phenomena with Bose and Fermi Mixtures. Highly nonlinear phenomena: Josephson effects, topological defects, vortex states.

Electron-hole and Excitonic superfluidity and supersolidity Innovative numerical methods: Machine Learning, its synergies with QMC, and applications.

Quantum technologies and quantum devices based on novel quantum systems.

#### **Scientific and Organizing Committee**

Luca Dell'Anna and Luca Salasnich, University of Padova, Italy, Andrea Perali, University of Camerino, Italy, and International MultiSuper Network

Yasutomo Uemura, Columbia University, New York, USA

#### **Sponsors**

## MDPI Condensed Matter Awards

The open access journal Condensed Matter (MDPI) offers two awards



to the best presentation from young investigators.

**Conference Proceedings** of SuperFluctuations 2022 will be published by Condensed Matter.

Conference web site: www.multisuper.org Contact andrea.perali@unicam.it

### **Invited Speakers**

**Francesco Ancilotto**, University of Padova, Italy **Antun Balaz**, Institute of Physics Belgrade, Serbia

Antonio Bianconi, RICMASS, Rome, Italy

**Giacomo Bighin**, University of Heidelberg, Germany

Jordi Boronat, Universitat Politècnica de Catalunya, Barcelona, Spain

Massimo Capone, SISSA, Trieste, Italy

Sergio Caprara, "Sapienza" University of Rome, Italy

Roberta Citro, University of Salerno, Italy

Steven Conradson, Washington State University, USA

Sara Conti, University of Antwerp, Belgium

Matija Culo, Institute of Physics, Zagreb, Croatia,

Alessandro De Martino, City, University of London, UK

Stefania De Palo, University of Trieste, Italy

Laura Fanfarillo, University of Florida, Gainesville, Florida, USA

**Koichiro Furutani**, University of Padova, Italy **Kazushi Kanoda**, University of Tokyo, Japan

Sergei Klimin, University of Antwerp, Belgium

Nicolino Lo Gullo, VTT - Technical Research Center of Finland, Espoo,

Kin-Fai Mak, Cornell, USA

Pieralberto Marchetti, University of Padova, Italy

Francesco Minardi, University of Bologna, Italy

Doug Natelson, Rice University, USA

Ivan Morera Navarro, Universitat de Barcelona, Spain

**Thereza Cristina Lacerda Paiva**, Universidade Federal do Rio de Janeiro, Brazil

Axel Pelster, Technische Universität Kaiserslautern, Germany

Pierbiagio Pieri, University of Bologna, Italy

Luciano Pietronero, CREF - Centro Ricerche Enrico Fermi, Rome, Italy

Andrea Richaud, SISSA, Trieste, Italy

Carlos Sá de Melo, Georgia Institute of Technology, Atlanta, USA

Gaetano Senatore, University of Trieste, Italy

Andrea Tononi, Université Paris-Saclay, CNRS, LPTMS, Orsay, France















