













# SuperFluctuations 2019

Fluctuations and Highly Non Linear Phenomena in Superfluids and Superconductors

Padova (Italy) September 2-4, 2019 Università di Padova

First day: Archivio Antico del Palazzo 'Bo' Second and third day: Dipartimento di Fisica e Astronomia 'Galileo Galilei' - Aula magna 'Rostagni'

Jointly organized by: University of Camerino and University of Padova, Italy

### **Main Topics**

Fluctuations and BCS-BEC crossover phenomena in multicomponent and low

Quantum Technologies and Novel Phenomena with Bose and Fermi Mixtures.

Highly nonlinear phenomena: Josephson and Andreev effects, topological defects, skyrmions and solitons, vortex states

Novel quantum phenomena in multicomponent / multigap superconductors and superfluids.

Innovative numerical methods: Machine Learning and its applications.

## Scientific and Organizing Committee

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

### **Local Organizing Committee**

Alberto Cappellaro, Andrea Tononi, and Paola Zenere, University of Padova,

# **MDPI Condensed Matter Awards**

The new open journal Condensed Matter (MDPI) offers an award to the best oral or poster contribution presented by a young scientist

Conference Proceedings of SuperFluctuations 2019 will be published by Condensed Matter. Submission of papers within 31st December 2019



Financial support from the Dipartimento di Fisica e Astronomia 'Galileo Galilei', University of Padova, Italy and from the School of Pharmacy, University of Camerino, Italy



### **Participants**

Antun Balaz, Institute of Physics, Belgrade, Serbia

Antonio Bianconi, RICMASS, Rome, Italy

Giacomo Bighin, IST - Institute for Science and Technology, Klosterneuburg, Austria

Alessia Burchianti, CNR-INO, Florence, Italy Massimo Capone, SISSA, Trieste, Italy Alberto Cappellaro, University of Padova, Italy

Giuseppe Carleo, Simons Foundation, New York, USA

Sara Conti, University of Antwerp, Belgium and University of Camerino, Italy

Fabio Cinti, University of Florence, Italy and University of Joannesburg, South Africa Roberta Citro, University of Salerno, Italy

Franco Dalfovo, University of Trento, Italy

Alessandro De Martino, Department of Mathematics, City, University of London, United Kingdom

Bruno Julia-Diaz, Institute of Physics, University of Belgrade, Serbia

Koichiro Furutani, Keio University, Japan Stefano Giorgini, University of Trento, Italy

Serghei Klimin, TOC, University of Antwerp, Belgium

Benjamin Mc Naughton, University of Antwerp, Belgium and University of Camerino, Italy

Tommaso Macri, Universidade Federal do Rio Grande do Norte, Natal, Brazil Boris Malomed, University of Tel Aviv, Israel

Pieralberto Marchetti, University of Padova, Italy

Francesco Minardi, LENS, Florence, Italy.

Milorad Milosevic, University of Antwerp, Belgium

Simone Montangero, University of Padova, Italy

Alberto Parola, Università dell'Insubria, Italy

Vittorio Penna, Politecnico di Torino, Italy

Sebastiano Pilati, University of Camerino, Italy

Michele Pini, University of Camerino and University of Florence, Italy

Roberto Raimondi, University of Roma Tre, Italy

Alessio Recati, University of Trento and INO-CNR BEC Center, Italy

Carlos Sa de Melo, Georgia Tech, Atlanta, USA

Tomasz Sowinski, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland

Hiroyuki Tajima, Riken Nishina Center, Wako, Saitama, Japan

Bilal Tanatar, Bilkent University, Ankara, Turkey Antonio Tiene, Universidad Autónoma de Madrid, Spain

Andrea Tononi, University of Padova, Italy

Andrea Trombettoni, SISSA, Italy

Wout Van Alphen, University of Antwerp, Belgium

Senne Van Loon, University of Antwerp, Belgium

Patrizia Vignolo, Institut de Physique de Nice, France

Sandro Wimberger, University of Parma, Italy

Yuriy Yerin, University of Camerino, Italy