

Curriculum vitae of Dr. Malossi Nicola

PERSONAL INFORMATION

Date of Birth: July 24th, 1976

Citizenship: Italian

Working address: School of Science and Technology, Physics Division, University of Camerino (UNICAM), via Madonna Delle Carceri 9, Camerino (MC); Tel.: +39 0737 402543

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EDUCATION

2008 - PhD in Physics at the Niels Bohr Institute, Copenhagen, Denmark

2003 – Master Degree in Physics at the University of Pisa

ACADEMIC ACHIEVEMENTS AND CARRIER

2021 RTD-B at the Physics Division, University of Camerino.

2013-2020 RTD-A at the Physics Division, University of Camerino.

2018 – Eligibility to Associate Professor FIS02/B1 (Abilitazione Nazionale)

2011 – Eligibility to the position of 3rd Level Researcher-CNR/INO

2010 – Post Doc and 3rd level CNISM-Researcher at the Ino-CNR-Pisa (Istituto Nazionale di Ottica) and at Physics Department of the University of Pisa.

2008 – CNRS-Postdoc (researcher) at the LNE-Syrte (Laboratoire national de métrologie ed d'essais - Système de Référence des Temps-Espace), Observatoires de Paris, Paris.

Field of Research:

Light and matter interactions, atomics physics, quantum optics, ultracold atoms, Cavity opto-mechanics, Electro-mechanics, hybrid opto-mechanics, Bose-Einstein Condensation, Rydberg Atoms, cold atoms interferometry, metrology, quantum information, quantum simulations.

Skills:

Optics, quantum optics. Spectroscopy, frequency stabilization of lasers and optical cavities, laser cooling and trapping of neutral atoms, alkali and alkali-earth atoms, optical lattices, Bose-Einstein Condensation, ionization and ions detection. High vacuum systems, atomic beam generations. Diodes laser system, solid state lasers, fiber lasers, dye lasers, optical cavities for second harmonics generation, Raman transitions for manipulating cold atoms, Rydberg atom physics. High accuracy optical and atomic interferometry. Electro-mechanical and opto-mechanical systems. Cavity opto-mechanics and optical detection.

Research interests:

Nicola Malossi has a research record on several topics in the field of light and matter interaction. He started his carrier working in the field of atomic physics and laser cooling of neutral atoms in the group of Ultra-Cold Atoms and BEC at the Physics Department of University of Pisa. Ultra-cold atoms are one of his mayor topics of research. He worked on Bose-Einstein Condensation (BEC), studying non-linear phenomena for matter waves in optical lattices (non-linear Landau Zener), fundamental quantum limits and quantum simulation (quantum speed limit and quantum protocols). He worked on the field of atomic clocks (laser cooling of neutral Mg) and atomic interferometry applied to gravimetry for metrological interests (a novel matter wave interferometer for the Watt Balance Projects for the re-definition of kg). He worked on strongly interacting quantum systems, such as Rydberg atoms in ultra-cold atomic samples and their application to quantum computation. Five years ago he has joined the Quantum Optics and Cryogenic Lab at the Physics Division of the School of Science and Technology of University of Camerino in the frame of the Iquoems Europran Project, coordinated by Unicam Group. He has started the experimental activity on electro-mechanics in Camerino while he joined the local activity on quantum

optics and cavity opto-mechanics. He also joined the INFN-HUMOR project on measurement of phenomenological quantum gravity. His recent work has been focused on the realization of electro-opto-mechanical transducer and the study of their physical properties, in particular the development of multimode-mechanical devices, showing non-reciprocal transducing properties and increased bandwidth.

Publications:

29 articles on peer review papers, 11 paper on conference proceedings, 1472 citations, h-index=18 (source web of science 08/09/2022).

Teaching activity

He has been appointed to the following teaching courses at the School of Science and Technologies: “General Physics” (Class L-32 and L-34) 2013-2019, “Advance Electromagnetism” (Class LM-17) 2017,2018,2019, Physics I (Class L-27) 2021, General Physics (Class L-13, L-2).