

# Curriculum Vitae

## Lucia Gardini

### PRESENT POSITION AND RESEARCH INTERESTS

My current position is III degree Researcher at National Institute of Optics, CNR, Italy and Associate Researcher at the European Laboratory for Non-linear Spectroscopy (LENS). My research interests lay across physics and biology, namely I develop novel optical techniques to address unmet biological questions at the cellular and sub- scale. The main applications of my research can be summarized by the following: Super-resolution microscopy for quantitative analysis of target proteins distribution in different biological samples; 3D single-molecule tracking; Single-molecule fluorescence and scattering; High-Speed Optical Tweezers to study protein-protein interactions under load; Combination of optical tweezers and single-molecule fluorescence.

### EDUCATION

17/03/2014 PhD in Atomic and Molecular Spectroscopy at LENS (European Laboratory for Non-Linear Spectroscopy), University of Florence, Italy. Supervisor: Prof. F.S: Pavone. Title of the thesis: "3D tracking of single molecular motors"

19/03/2010 Master's Degree in Physics, University of Bologna, Italy. Supervisor: Prof. G.C. Castellani. 110/110 cum laude. Thesis title: " Dynamic imaging of free radicals in cells exposed to ionizing radiations"

### CURRENT POSITION(S)

Dec 2018- pres. Level III Researcher at INO-CNR, Sesto Fiorentino, Italy

2018-pres. Principal Investigator on Super-resolution and Single-molecule Imaging at INO-CNR, Biophotonics Scientific Area

2018-pres Associate Researcher at LENS (European Laboratory for Non-Linear Spectroscopy), Sesto Fiorentino, Italy

### PREVIOUS POSITIONS

Jun 2017-Dec 2018 Level III Researcher (TD) at INO-CNR, Sesto Fiorentino, Italy

Jan 2014-Jun 2017 Postdoctoral researcher at Physics Department, University of Florence and LENS (European Laboratory for Non-Linear Spectroscopy)

Jan 2011-Mar 2014 PhD Student at the Biophotonics Lab at LENS (European Laboratory for Non-Linear Spettroscopy)

Jun-Oct 2010 Research Assistant at the Physics Department, University of Bologna

### CAREER BREAKS

06/08/2016-08/01/2017 Maternity leave

### TEACHING ACTIVITIES (courses)

AA 2011/2012 Lab assistant for the Laboratory of Applied Physics course (Biotechnologies Degree, University of Florence).

2015-pres. Classes of Single-molecule Imaging and Super-resolution microscopy within the Courses of Advanced Microscopy (Physics Master Degree, University of Florence) and Optical Methods for the biotechnologies (Biotechnologies Master Degree, University of Florence).

### TEACHING ASSIGNMENTS IN INTERNATIONAL SCHOOLS OF HIGHER EDUCATION

2019 Seminars for "Lights of Tuscany 2019" workshop.

2021 Class on "Single-molecule microscopy" within the advanced training course "Vedere per credere", granted by Fondazione Golinelli in Bologna (invited).

### TEACHING ACTIVITIES (other)

2016-2019 PhD Student Tutoring within the Atomic and Molecular Photonics International Doctorate, XXXII cycle. Student: Tiziano Vignolini. Thesis title: "ENHANCEMENT OF INCLINED OPTICAL SHEET ILLUMINATION AND ITS APPLICATION TO QUANTITATIVE SUPER-RESOLUTION MICROSCOPY.

2020-present PhD Student Tutoring within the Atomic and Molecular Photonics International Doctorate, XXXVI cycle, 2020-2023, on super-resolution microscopy combination with expansion microscopy.

### SEMINARS

2010-pres. 12 talks at internazional congresses, 1 invited talk at internazional congress, 10 poster presentations at international congresses.

### INSTITUTIONAL RESPONSIBILITIES

2017-pres. Member of several commissions for the selection of postdoctoral researchers, Assegno di Ricerca, at INO-CNR

2021 Member of commission for the selection Early Stage Researchers European Programme Marie Skłodowska Curie, Innovative Training Networks. Project "Nose-to-Brain Delivery of Biopharmaceutics for the therapy of central nervous

system diseases: A design-based approach for efficient drug delivery systems” — BIO2BRAIN– GA n. 956977of Assegno di Ricerca Candidate at INO.

**EDITORIAL AND REFERRING ACTIVITY**

2018-pres.      Reviewing activities for the following journals:

Scientific Reports, Ultramicroscopy, Computer Physics Communications, Journal of Molecular Liquids.

Review Editor of Frontiers In Physics- Biophysics.

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