

Curriculum Vitae:

Name: Mauro Nisoli

Date of birth: October 11, 1965

Place of birth: Bergamo, Italy

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Academic carrier:

- Since 2011 he is Full Professor at Politecnico di Milano
- 2001-2010: member of the Faculty of Politecnico di Milano as Associate Professor (Physics of Matter).
- 1991-2001: Researcher of the National Research Council (CNR) with the Center of Quantum Electronic and Electronic Instrumentation.
- 1990: degree in Electronic Engineering (cum laude) from Politecnico di Milano

Teaching activity:

- Since 2006: *Photonics* course; "Physics Engineering" students of Politecnico di Milano.
- Since 1995: *General Physics*; "Information Engineering" students of Politecnico di Milano.
- 1990-1995: Assistant professor *General Physics I, General Physics II, Optoelectronics*.
- He has supervised several students during the preparation of Bachelor and Master thesis. He has supervised and co-supervised 6 PhD students.

Research focus:

- Attosecond science: generation and application of attosecond pulses.
- Ultrashort-pulse laser technology.
- Production of coherent XUV radiation by high-order harmonic generation in gases.
- Control and real-time observation of electronic motion in atoms, molecules, biomolecules and nanostructures.
- Generation and control of few-optical-cycle light pulses (sub-5-fs duration) with stabilized carrier-envelope phase.
- Applications of femtosecond light pulses to the investigation of ultrafast processes in organic and inorganic semiconductors and nanostructures.
- Optical parametric processes for the generation of high-energy few-optical-cycle pulses.

He is co-author of more than 160 research papers in international journals, including: 1 Science, 2 Nature, 2 Nature Physics, 3 Nature Photonics and 16 Phys. Rev. Lett.. He has 1 patent (hollow-fiber compression technique). He has given several invited and tutorial communications at international meetings and schools. He is co-author of 6 didactic books of General Physics and 1 didactic book of Quantum Electronics.

He is reviewer for several international scientific journals, including: Science, Nature Physics, Nature Photonics, Physical Review Letters, Physical Review A, B and E.

Honors:

In 2008 he was awarded an ERC Advanced Grant for the investigation of electron dynamics in molecules with attosecond temporal resolution ("Electron-scale dynamics in chemistry", ELYCHE).

Scientific collaborations:

During his research activity he has established fruitful collaborations with several national and international groups:

- M.J.J. Vrakking: FOM Institute for Atomic and Molecular Physics – Amsterdam (The Netherlands). Application of isolated attosecond pulses to the study of electron dynamics in small molecules (D_2 , H_2) by using the velocity map imaging technique.
- F. Martín: Universidad Autonoma de Madrid. Theoretical investigation of the ultrafast electron processes in molecules.
- A. L'Huillier: University of Lund (Sweden). Attosecond electron wavepacket interferometry.
- J.P. Marangos: Imperial College, London (UK). HHG in molecules.
- E. Constant: Center for Intense Lasers and Applications (CELIA), Bordeaux (France). Polarization Gating technique for isolated attosecond pulse generation.
- G.G. Paulus: IOQ-Jena (Germany). First experimental demonstration of the role of the carrier-envelope phase in strong-field processes.
- U. Keller: ETH - Zurich (Switzerland). Real-time SPIDER characterization of few-cycle pulses and compression of pulses down to 3.8 fs by using an adaptive system.
- M. Kling: MPQ - Garching (Germany). Molecular imaging.
- J. Greenwood: Queen's University Belfast. Ultrafast electron dynamics in biomolecules.
- G. Steinmeyer: Max Born Institute - Berlin (Germany). Ultrabroadband chirped mirrors.
- G. Tondello: University of Padova (Italy). XUV optical systems.
- R. Velotta: Università di Napoli, Federico II-Napoli (Italy). HHG in molecules.