POLITECNICO DI MILANO

PhD in FISICA / PHYSICS - 38th cycle

THEMATIC Research Field: ULTRAFAST PROCESSES IN ORGANIC MOLECULAR OPTOELECTRONICS

Monthly net income of PhDscholarship (max 36 months)
€ 1200.0 In case of a change of the welfare rates or of changes of the scholarship minimum amount from the Ministry of University and Reasearch, during the three-year period, the amount could be modified.

Context of the research activity	
Motivation and objectives of the research in this field	The research activity is part of theproject H2020-ERC-2020-SyG n. 951224 - "The ultimate time scale in organic molecular opto-electronics, the attosecond" - TOMATTO. The main objective is the identification of the early steps of light-driven processes of primary importance in organic molecular optoelectronics, which typically evolve on timescales ranging from the attosecond domain of purely electron dynamics, to the hundreds of femtosecond domain of nuclear dynamics. https://tomatto.eu/
Methods and techniques that will be developed and used to carry out the research	Pump-probe measurement with temporal resolution from a few femtoseconds to a few hundreds of attosecond. A time-delay compensated monochromator and an attosecond beamline will be used.
Educational objectives	The multidisciplinary character of this research will allow the candidate to gain new insights in atomic and molecular physics, ultrafast laser technology, nonlinear optics.
Job opportunities	The PhD Program aims at developing an experimental approach in problem solving and a high level of professional qualification, opening job opportunities such as i) research in universities and research centers; ii) research and development in laser companies, iii) manager for innovation and technology.
Composition of the research group	1 Full Professors

	1 Associated Professors 3 Assistant Professors 4 PhD Students
Name of the research directors	Mauro Nisoli - Rocio Borrego Varillas (Researcher)

Contacts
mauro.nisoli@polimi.it 02 2399 6167 www.attosecond.fisi.polimi.it

Additional support - Financial aid per PhD student per year (gross amount)	
Housing - Foreign Students	--
Housing - Out-of-town residents (more than 80Km out of Milano)	--

Scholarship Increase for a period abroad	
Amount monthly	600.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information

***Educational activities* per year :**

1.630,80 euros per student for each year.

***Teaching assistantship*:**
There are various forms of financial aid for activities of support to the teaching practice.
The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.

Computer availability: *individual use*

Desk availability:
1st year: *sharing use*
2nd year: *sharing use*
3rd year: *individual use*