



## PhD in FISICA / PHYSICS - 40th cycle

### THEMATIC Research Field: ULTRAFAST PROCESSES IN ORGANIC MOLECULAR OPTOELECTRONICS

#### Monthly net income of PhDscholarship (max 36 months)

**€ 1400.0**

In case of a change of the welfare rates during the three-year period, the amount could be modified.

#### Context of the research activity

<b>Motivation and objectives of the research in this field</b>	The research activity is part of the project 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 <a href="https://tomatto.eu/">https://tomatto.eu/</a>
<b>Methods and techniques that will be developed and used to carry out the research</b>	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.
<b>Educational objectives</b>	The multidisciplinary character of this research will allow the candidate to gain new insights in atomic and molecular physics, ultrafast laser technology, nonlinear optics.
<b>Job opportunities</b>	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.
<b>Composition of the research group</b>	1 Full Professors



	2 Associated Professors 1 Assistant Professors 5 PhD Students
<b>Name of the research directors</b>	Prof. Mauro Nisoli Dr. Rocio Borrego Varillas

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

<b>Scholarship Increase for a period abroad</b>	
<b>Amount monthly</b>	700.0 €
<b>By number of months</b>	6

<b>Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information</b>
<p><b>Educational activities</b> Educational activities (purchase of study books and material, funding for participation to courses, summer schools, workshops and conferences). Financial aid per PhD student per 3 years: max 5.707,20 euros per student.</p> <p><b>Teaching assistantship</b> 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.</p> <p><b>Computer and desk availability</b> The computer will be individual while the desk will be shared for the first two years.</p>