POLITECNICO DI MILANO

PhD in FISICA / PHYSICS - 38th cycle

THEMATIC Research Field: ATTOSECOND DYNAMICS IN ADVANCED MATERIALS

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 the project ERC-2019-STG:`Attosecond Dynamics in AdvanCed matErials (AuDACE)" n. 848411, which aims to enter an unexplored region Physics and investigate ultrafast electron, exciton and spin dynamics happening in advanced materials on time scales below few femtoseconds.http://www.audaceproject.it/
Methods and techniques that will be developed and used to carry out the research	The candidate will work with attosecond time-resolved techniques such as transient absorption and reflection based on single or train of attosecond pulses in the extreme-ultraviolet spectral range. Particular attention will be given to the study of ultrafast electron dynamics in advanced materials.
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 and advance materials.
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	Matteo Lucchini, Mauro Nisoli

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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 **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 Computer and desk availability**: *the computer will be individual while the desk will be shared for the first two years.*