



## PhD in FISICA / PHYSICS - 39th cycle

**THEMATIC Research Field: SCANNING PROBE MICROSCOPY OF NANOSTRUCTURED INTERFACES AND 2D MATERIALS**

Monthly net income of PhDscholarship (max 36 months)
<b>€ 1300.0</b>
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>	Modern nano-fabrication techniques allow structuring of surfaces, far below the wavelength of visible light. The design and characterization of such metamaterials require sub-diffraction resolution microscopy. The thesis aims at investigating light-matter interaction at the nanoscale by means of advanced microscopy techniques.
<b>Methods and techniques that will be developed and used to carry out the research</b>	Nano-imaging and nano-spectroscopy will be used to investigate light-matter interaction at the nanoscale, including excitons polaritons in 2D materials.
<b>Educational objectives</b>	Application of sub-diffraction limited microscopy.
<b>Job opportunities</b>	Developing new functionalities in nano-imaging microscopy and spectroscopy is constantly part of the research efforts of microscopes manufactures. Moreover, the application to 2D materials open to new possibilities in the emerging field of flat lightweight electronics.
<b>Composition of the research group</b>	1 Full Professors 1 Associated Professors 6 Assistant Professors 8 PhD Students
<b>Name of the research directors</b>	Antonio Ambrosio

Contacts
Prof: Antonio Ambrosio --> antonio.ambrosio@iit.it
<a href="https://www.iit.it/it/people-details/-/people/antonio-ambrosio/">https://www.iit.it/it/people-details/-/people/antonio-ambrosio/</a>



<http://cnst.iit.it/>

<https://www.iit.it/it/web/vectorial-nano-imaging>

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	650.0 €
By number of months	6

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

**Educational activities:** 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 5.300,25 euros per student.

**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 and desk availability:** individual use computer and desk