



## PhD in FISICA / PHYSICS - 37th cycle

### THEMATIC Research Field: DEVELOPMENT OF TIN PEROVSKITES BASED OPTOELECTRONIC DEVICES

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

**€ 1300.0**

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>	Semiconducting metal halide perovskites, and devices based on them, will be the primary technology under investigation, given its potential to represent the merging point between the efficient inorganic and the chameleonic organic electronics. Currently, the most efficient devices are based on lead and have a bandgap of 1.65eV, thus not ideal both in terms of efficiency and sustainability.
<b>Methods and techniques that will be developed and used to carry out the research</b>	The PhD candidate will develop processing methods to fabricate stable Tin based perovskite thin films for efficient LEDs and Solar cells applications. S/He will also be responsible of the structural and optical characterization of the materials and of the the optoelectronic characterization of devices.
<b>Educational objectives</b>	Mastering of experimental techniques which include wet chemistry procedures, XRD, SEM, RAMAN, optoelectronic device farication and testing.
<b>Job opportunities</b>	Academic Research R&D industry Teaching in STEM
<b>Composition of the research group</b>	1 Full Professors 0 Associated Professors 12 Assistant Professors 2 PhD Students
<b>Name of the research directors</b>	Annamaria Petrozza



Contacts
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Additional support - Financial aid per PhD student per year (gross amount)	
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Housing - Foreign Students	--
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Housing - Out-of-town residents (more than 80Km out of Milano)	--
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Scholarship Increase for a period abroad	
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Amount monthly	566.36 €
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By number of months	6
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Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
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**Educational activities per year :**

1<sup>st</sup> year: 0

2<sup>nd</sup> year: 1534 euros per student

3<sup>rd</sup> year: 1534 euros per student

or 1022 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 and Desk availability:** shared use.