



# PhD in INGEGNERIA AEROSPAZIALE / AEROSPACE ENGINEERING - 39th cycle

## THEMATIC Research Field: CHARACTERIZATION OF LUNAR METEOROID IMPACTS AND DYNAMICS

Monthly net income of PhDscholarship (max 36 months)
<b>€ 1600.0</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>	<p>The research position is issued in the context of ESA's LUMIO (LUNar Meteoroid Impact Observer) Mission. LUMIO is a 12U CubeSat, aimed at detecting meteoroid impact flashes on the far-side of the Moon. The objective of LUMIO is to characterize the spatial and temporal distribution of meteoroids in the Earth-Moon environment.</p>
<b>Methods and techniques that will be developed and used to carry out the research</b>	<p>The research activities are aimed at the study of the physical and dynamical properties of meteoroids in the Earth-Moon environment, and their interaction with the lunar surface. In this context, the position covers one or more of the following aspects: (a) dynamics of meteoroids, (b) impact physics of meteoroids, (c) physical properties of meteoroids, (d) impact flash detection and localization.</p>
<b>Educational objectives</b>	<p>The successful candidate will work with in an interdisciplinary research team, and will be part of ESA's LUMIO Mission Science Team, which includes more than 40 scientists from institutions all over the world. Regular interactions are foreseen with international collaborators. PoliMi's LUMIO Team leads both the design and scientific exploitation of the mission, and is part of the DART (Deep-space Astrodynamics Research and Technology) Group, a larger team composed of more than 25 researchers, active in a broad range of topics related to space exploration.</p>



<b>Job opportunities</b>	Opportunities include research and academic jobs in the field of space engineering and planetary science, as well as positions in the space industry related to Space Situational Awareness, payload design, and spacecraft operations planning.
<b>Composition of the research group</b>	1 Full Professors 1 Associated Professors 2 Assistant Professors 20 PhD Students
<b>Name of the research directors</b>	Prof. Fabio Ferrari

<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>	800.0 €
<b>By number of months</b>	6

<b>Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information</b>
The PhD candidate will receive a desk, possibly through a hot-desking procedure, and a personal computer, if needed. Apart from the compulsory ones, the PhD candidate will have the opportunity to follow additional courses and receive economic support to attend summer schools and participate in conferences. There will be the possibility of paid teaching assistantship.