



PhD in INGEGNERIA AEROSPAZIALE / AEROSPACE ENGINEERING - 37th cycle

THEMATIC Research Field: MODEL BASED SYSTEM ENGINEERING FOR ASTRONOMY

Monthly net income of PhDscholarship (max 36 months)

€ 1325.0

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

Context of the research activity

Motivation and objectives of the research in this field

The proposed research is focused on the development of Model-based system Engineering approach, focusing on its implementation into astronomical instrumentations. The need of making this powerful approach usable and able to interact with „non-MBSE based engineers“, is a crucial point to allow a wide and efficient usage and diffusion of it.

Methods and techniques that will be developed and used to carry out the research

The doctoral student will follow doctoral courses at the Doctoral School of the Politecnico di Milano. The candidate will interact with the system engineers group of INAF-Brera which leads the system engineering of Maory and HIRES: 2 scientific instruments to be developed in the astronomical European framework and mounted onto the European Extremely Large Telescope

Educational objectives

The specific objective of this PhD is to develop skills in new approaches to model complex engineering systems for scientific application in space with a multidisciplinary perspective. The ultimate goal is to step forward the shifting of the classical design approach in scientific payload engineering, to the advanced Model-Based System Engineering Approach to improve the controllability and traceability of the development of complex systems.

Job opportunities

The job opportunities that this project opens up are identified in the system engineering and management activities of large scientific programs. The aerospace and



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| | automotive branch are developing implementation on those methodologies widely in the last years. |
| Composition of the research group | 1 Full Professors 0 Associated Professors 2 Assistant Professors 13 PhD Students |
| Name of the research directors | Prof. Michèle Lavagna |

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

| Scholarship Increase for a period abroad | |
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| Amount monthly | 564.01 € |
| By number of months | 6 |

| Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information |
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| The PhD candidate will receive a desk and a personal computer. In addition to compulsory ones, the PhD candidate will have the opportunity to follow additional courses, receive economic support to attend summer schools, and participate in conferences. There will be the possibility of paid teaching assistantship. |