



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

**THEMATIC Research Field: MULTI-STABLE COMPOSITE STRUCTURES FOR ADAPTIVE  
WINGS**

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

**€ 1400.0**

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 pressing need to reduce the environmental impact of air transport and the aerospace sector in general drives the search for innovative solutions that involve all disciplines. In particular, in the field of aerospace structures in composite materials, there is an evident need to design and build ever more efficient structures that contribute significantly to the overall efficiency of the aircraft. These new, lighter, flexible multi-stable structures will allow to adapt the wing shape during different flight conditions so to increase the efficiency and at the same time to reduce the emissions.

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

The research activity will be carried out in the framework of the ERC Advanced Grant NABUCCO, a project awarded by the European Research Council of the European Commission. The methodology to be developed for the design of multi-stable aerospace composite structures requires an integrated approach including analysis, optimization and testing.

### Educational objectives

To optimize aerospace multi-stable composite structures using a multi-disciplinary approach.

### Job opportunities

The acquired knowledge can be applied in different sectors where lightweight structures play a significant role.

### Composition of the research group

1 Full Professors  
0 Associated Professors



	0 Associated Professors 1 Assistant Professors 4 PhD Students
<b>Name of the research directors</b>	Prof. Chiara Bisagni

<b>Contacts</b>
Dipartimento di Scienze e Tecnologie Aerospaziali - Politecnico di Milano - via La Masa 34, 20156 Milano - Italy - tel. +390223998344 - email: chiara.bisagni@polimi.it - web site: www.aero.polimi.it

<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>	700.0 €
<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.