



PhD in BIOINGEGNERIA / BIOENGINEERING - 40th cycle

THEMATIC Research Field: DEVELOPMENT OF NUMERICAL MODELS FOR THE TREATMENT OF AORTIC VALVE PATHOLOGIES - SVILUPPO DI MODELLI NUMERICI PER IL TRATTAMENTO DI PATOLOGIE DELLA VALVOLA AORTICA

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 aim of the research project is to build predictive model for the treatment of aortic valve pathologies with the presence of transcatheter aortic valves. The models will enable the investigation of the structural and fluid complications post-treatment.
Methods and techniques that will be developed and used to carry out the research	<p>During / at the completion of this PhD program, the student will be able to:</p> <ul style="list-style-type: none"> - to create finite element models of patients with aortic valve diseases - to create finite element models of the treatment with transcatheter aortic valves - to perform autonomously fluid dynamics and structural simulations with results post-processing - to manage with clinical data (e.g. clinical images) - to collaborate with engineers, biologists and clinicians of international centers - to develop a solid background in biomechanics of diseased heart valves
Educational objectives	<ul style="list-style-type: none"> - Learning and development of numerical tools to analyze the mechanisms of diseases heart valves - Team work in biomechanics research - International collaboration
Job opportunities	After the completion of the PhD, the candidate will have



	opportunities of continuing the research as Post-Doc researcher in biomechanics worldwide or to be hired by biomedical device companies
Composition of the research group	3 Full Professors 0 Associated Professors 4 Assistant Professors 5 PhD Students
Name of the research directors	PROF. GIULIA LURAGHI

Contacts
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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	700.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
A shared desk and computer will be given to the PhD student for the time needed to carry out research. Short periods of teaching assistantship are encouraged during the program.