



# PhD in INGEGNERIA MECCANICA / MECHANICAL ENGINEERING - 39th cycle

**PNRR 117 Research Field: ADAS AND AD TESTING AND IMPROVING BY DRIVING  
SIMULATOR TECHNOLOGY**

**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

ADAS (advanced driving assistance systems) and AD (Automated Driving) currently are prone to a number of testing issues that originate from relevant scenario definition to regulation evolution. A sound understanding of automotive engineering principles are needed to propose improvements to testing procedures of ADAS. Developing driving simulator technology is the preferred way to improve testing for future homologation purposes or new car assessment programmes. The final aim is to fulfil the Europe target of zero fatal accidents by 2050.

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

During the research the student will contribute to the development of new testing methodology applied to "customer specific" or public testing standards related to the assessment and validation of new technology requested by Automotive industry. The aim of these standard is to improve active safety and support the development of ADAS and AD Technologies. Examples of functionality that requires high level of improvement are, not limited to, Human Factors ( e.g. driver drowsiness and distraction), Human Machine interface, Improvement of correlation between physical testing and numerical testing, etc.

### Educational objectives

The educational objectives refer both to soft skills and



	<p>hard skills</p> <p>Soft skills include: team management, research management, dissemination, communication and outreach, quadruple-helix activities;</p> <p>Hard skills include: driving simulator technology, adas technologies, automotive technology (chassis and powertrain technology, HMI).</p>
<b>Job opportunities</b>	<p>Job opportunities may be found in all Automotive Industry companies (either suppliers or OEMs), research institutes or Academia, Regulation bodies or rating programmes (ISO, UN, EUR-NCAP).</p> <p>Our last survey on MeccPhD Doctorates highlighted a 100% employment rate within the first year and a 35% higher salary, compared to Master of Science holders in the same field.</p>
<b>Composition of the research group</b>	<p>2 Full Professors 2 Associated Professors 2 Assistant Professors 8 PhD Students</p>
<b>Name of the research directors</b>	Proff. Mastinu, Gobbi, Previati

<b>Contacts</b>
<p>Phone: + 39 333 326 79 07 Email: gianpiero.mastinu@polimi.it</p> <p>For questions about scholarship/support, please contact phd-dmec@polimi.it.</p>

<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>National Operational Program for Research and Innovation</b>	
<b>Company where the candidate will attend the stage (name and brief description)</b>	CSI S.p.A.
<b>By number of months at the company</b>	6
<b>Institution or company where the candidate will spend the period abroad</b>	to be defined



<b>candidate will spend the period abroad (name and brief description)</b>	
<b>By number of months abroad</b>	6

**Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information**

Financial aid is available for all PhD candidates (purchase of study books and materials, funding for participation in courses, summer schools, workshops and conferences) for a total amount of euro 5.707, 13.

Teaching assistantship: availability of funding in recognition of supporting teaching activities by the PhD candidate. 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.