



PhD in INGEGNERIA MECCANICA / MECHANICAL ENGINEERING - 38th cycle

Research Area n. 2 - Sustainable Mobility

PNRR_352 Research Field: BEYOND 5G FOR ENABLING AUTOMATED DRIVING IN
RELEVANT OPERATIONAL DESIGN DOMAINS

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

With reference to DM 352 dated 9-4-2022, the PhD researcher objectives will address the Missions 1 and 4 of the National Plan for Restart and Resilience - PNRR (Piano Nazionale Ripresa e Resilienza. Mission 1 of PNRR focuses on digital transition and competitiveness of productive chains. The PhD researcher will aim to develop automated driving in roundabouts or other relevant operational design domains. Mission 4 of PNRR focuses on filling the gap of education and fostering technology transfer. The PhD researcher will aim to become expert in the field of driving simulator technology and automotive connectivity.

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

The first year the PhD researcher will focus on driving simulator technology within use case 1 of the EU project AI@EDGE. He/she will spend nearly six months in Turin during the first year, provided that more detailed timing will be agreed. He/She will spend part of the second year at Stellantis premises to acquire connectivity competences. Some time could be spent in Milan. He/She will spend the last year to wrap up the different competences and define quantitatively the challenges for automated vehicles exploiting post 5G technology.

Educational objectives

Hard skills: driving simulator technology, automotive



	connectivity; artificial intelligence for quick computations and optimization Soft skills: team leadership, problem solving, dissemination, communication and outreach activities, networking, research fund procurement and management
Job opportunities	Job opportunities are available in the automotive industry, academia, regulating bodies. The AI@EDGE Consortium involves the following institutions and companies: Telecom, Ericsson, Stellantis, Univ Grenoble, Uni. Polit delle Marche, INRIA, lund Univ., Italtel.
Composition of the research group	2 Full Professors 2 Associated Professors 2 Assistant Professors 10 PhD Students
Name of the research directors	Prof. Gianpiero Mastinu, Prof. Federico Cheli

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	662.5 €
By number of months	6

National Operational Program for Research and Innovation

Company where the candidate will attend the stage (name and brief description)	Centro Ricerche Fiat
By number of months at the company	6
Institution or company where the candidate will spend the period abroad (name and brief description)	STELLANTIS N.V.
By number of months abroad	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 5.401,42.

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.