



PhD in INGEGNERIA MECCANICA / MECHANICAL ENGINEERING - 37th cycle

Research Area n. 2 - Sustainable Mobility

THEMATIC Research Field: PROGETTO INNOVAZIONE POLIMI - REGIONE LOMBARDIA:
INTEGRATED SMART AND GREEN TRANSPORT POLICIES ASSESSMENT

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

This research addresses that challenges of public administration are facing in the digital era that was accelerated by the COVID-19 events. The PhD will contribute to renew competences and instruments with the final goal to improve public administration governance and management. Particularly in the transportation sector, several strategies have been adopted to assure a smooth transition to achieve the goal of decarbonised transport such as investments to promote modal shift toward public transport, cycling and shared modes, as well as funding programmes to incentivize the use of clean fuel vehicles (electric, Hydrogen, hybrid) and autonomous driving ones (AV's). The above-mentioned policies need to be carefully assessed and duly planned, in order to facilitate an effective transition toward green mobility without inefficiencies and other undesirable indirect counter-effects. This research programme aims at developing an overall framework to assess transport policies towards a zero-carbon emission transport at the regional scale, that would critically analyse emerging innovations, contextualizing them in the context of the **Regione Lombardia** and would assess the contribution of innovations on overall sustainability (environmental, economic and social), including also an assessment of the associated risks. Integrated policies would be identified



	and tested for the study case of the Regione Lombardia , based on a multi-criteria approach to support regional planning of technological solutions, incentives and regulatory measures.
Methods and techniques that will be developed and used to carry out the research	The research will be conducted in collaboration with the Regione Lombardia Directorate on Infrastructures, Transportation and Sustainable Mobility. To carry out this research the following methods and techniques will be developed:- Integral Cost-Benefits and multi-criteria analyses, in order to assess the economic and in particular the social impact of transport investments-transport efficiency assessment methods to benchmark and assess operational and management costs of public transport compared to (travel demand and supply) outputs - advanced discrete choice models, in order to simulate travellers' behaviour, attitudes and perceptions about innovative technologies and new modes of transport-traffic assignment models (micro and macro), in order to simulate the impacts of new vehicles (e.g. AV's) on transport networks.
Educational objectives	The project will provide candidate with:- knowledge of the transportation sector, particularly the impact assessment of technologies; - methodological competences at both the theoretical and applied level; - problem setting and solving capabilities;- capabilities to interact with people o diverse background.
Job opportunities	Our last survey on MeccPhD Doctorates highlighted a 100% employment rate within the first year and a 35% higher salary, compared Master of Science holders in the same field. The research will be conducted in cooperation with the the Regione Lombardia Directorate on Infrastructures, Transportation and Sustainable Mobility.
Composition of the research group	2 Full Professors 1 Associated Professors 2 Assistant Professors 2 PhD Students
Name of the research directors	Prof. Coppola and a Regione Lombardia Tutor



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	566.36 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>Funding for educational activities (purchase of study books and material, funding for participation in courses, summer schools, workshops and conferences); funding per PhD student per year: 2nd year: euros 1.534 3rd year euros 1.534. Teaching assistantship: availability of funding in recognition of support to teaching activities by the PhD student; 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. Computer availability: 1st year: individual use 2nd year: individual use 3rd year: individual use Desk availability: 1st year: individual use 2nd year: individual use 3rd year: individual use.</p>