



# PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 40th cycle

**INAIL Research Field: RISK ASSESSMENT OF EVASION/AVOIDANCE OF INSURANCE  
OBLIGATIONS: VALUING DATA WITH ARTIFICIAL INTELLIGENCE**

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

**€ 1500.0**

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 this PhD project is to analyze and improve the systems supporting the assessment of risks of evasion/avoidance of insurance obligations with a focus on the exploitation of internal data and the use of machine learning and artificial intelligence.

The PhD Scholarship is sponsored by INAIL, the National Institute for Insurance against Accidents at Work, a public non-profit entity safeguarding workers against physical injuries and occupational diseases. Inail's objectives are: reducing injuries, protecting workers performing hazardous jobs, facilitating the return to work of people injured at workplace.

Companies have to pay insurance in relation to the degree of risk associated with their tasks and work activities. The risk of circumvention is high, creating not only economic damage to the government, but causing an underestimation of work risks.

The objective of this PhD research is to help reduce this risk and in particular to improve the risk analysis system by enhancing and 'augmenting' the data available in INAIL.

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

The research will make use of qualitative and quantitative methods. Preliminarily, the candidate will have to carry out a thorough literature review to define the state of the art. Empirically, the first objective will be an in-depth analysis of the system currently in use and the available databases. The second step will be the definition of



	<p>databases. The second step will be the definition of improvement scenarios in terms of both process and data analysis. The third, quantitative, step will involve the simulation of the new process using real data. Finally, the fourth step will be action research with INAIL to embed the new process.</p> <p>The PhD Project will be carried out in cooperation with INAIL, in all phases, hence with presence in Rome-headquarter of INAIL.</p>
<b>Educational objectives</b>	<p>The PhD project will be developed in close relationship with INAIL but will be academically rigorous and innovative. The candidate will be trained in the methodologies to best develop not only the project but also her/his skills to become a leading researcher and business innovator.</p> <p>At the end the candidate will have skills and abilities to operate in the business environment as a researcher and innovator mastering the problems to be addressed with qualitative and quantitative approaches.</p>
<b>Job opportunities</b>	<p>The candidate at the end will have the possibility of different careers. First to be a leading figure in public administrations and enterprises in AI Innovation. Academic careers will also be opened.</p>
<b>Composition of the research group</b>	<p>1 Full Professors 1 Associated Professors 4 Assistant Professors 1 PhD Students</p>
<b>Name of the research directors</b>	Michela Arnaboldi

<b>Contacts</b>
michela.arnaboldi@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>
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Amount monthly	750.0 €
By number of months	6

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

Due to the nature of the scholarship the presence in Rome is crucial for the successful achievement of the research.

- Involvement in projects: "For the overall development of their capabilities, PhD candidates will work on synergical projects to favour empirical data collection and network development for their career. Projects will give candidates the opportunity to work in group (peers and other senior professors)".
- Periods in companies: "The development of the PhD project requires a compulsory period to be spent in the company (e.g. INAIL in Rome) to better understand the company strategy and processes".
- Italian knowledge (e.g. borsa co-finanziata da ente italiano): "The interaction with key stakeholders requires a fluent knowledge of the Italian language".

**Funding for educational activities: 6.100,00 Euros for three years.**