POLITECNICO DI MILANO

PhD in INGEGNERIA DELL'INFORMAZIONE / INFORMATION TECHNOLOGY - 39th cycle

Research Area n. 1 - Computer Science and Engineering

THEMATIC Research Field: INNOVATIVE DATA MANAGEMENT FOR CLINICAL TRIALS

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	Clinical research, in order to be effective, must be able to have quantitatively and qualitatively adequate data. In the last period, real-world evidence has been offering an approach that aims to enrich the amount of data made available to clinical research by drawing on sources other than the classic ones of clinical studies. This leads to increased complexity in managing the lifecycle of data for its use for analytics. It is therefore necessary to focus studies on the problems of integration of sources, consistency, accuracy and completeness of data, as well as on the need to guarantee controlled access according to user roles.The aim of the research is to provide methods and tools to improve the analysis of health-related data through an adequate and synergistic management of clinical and research data. The research will involve the definition of meta-data models suitable for describing data in the healthcare domain, tools for profiling and which, through provenance solutions, also trace any changes to guarantee an always updated description of the data.
Methods and techniques that will be developed and used to carry out the research	The research conducted will be an experimental research based on the development of a prototype able to demonstrate the feasibility and the effectiveness of the proposed theoretical method.The research will take advantage of several case studies related to the clinical

	trials in Italian hospitals.
Educational objectives	To understand the models and methods underlying the data analytic practice in healthcare.To learn how to describe data for secondary usage purpose.
Job opportunities	The candidate, after concluding the Ph.D. study, can be qualified for data engineering-related positions with specific emphasis on data management, data profiling data integration.
Composition of the research group	1 Full Professors 3 Associated Professors 2 Assistant Professors 3 PhD Students
Name of the research directors	prof. Pierluigi Plebani

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
EDUCATIONAL ACTIVITIES (purchase of study books and material, including computers, funding for participation in courses, summer schools, workshops and conferences): financial aid per PhD student. TEACHING ASSISTANTSHIP: availability of funding in recognition of supporting 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: individual use.

DESK AVAILABILITY: individual use.