

ANNEX 8

ID NUMBER	MERC_08
PHD TITLE	MODELING AND ENGINEERING RISK AND COMPLEXITY
AVAILABLE POSITIONS	3 SSM doctoral fellowships 2 PNRR fellowships – Public Administration (DM 629/2024 - MUR)
LINES OF INVESTIGATION OF THE DOCTORAL PROGRAM	<p>The objective of this Ph.D. program is to empower students to develop and apply innovative methodological approaches for studying risk and complex systems, fostering a dynamic interplay between theory and applications. The doctoral program in MERC (Modeling, Engineering, Risk, and Complexity) begins with a rigorous first year designed to enhance students' interdisciplinary foundations. This foundational year features courses taught by internationally renowned researchers in fields such as dynamical systems and control, statistics and probability, stochastic differential equations, PDEs, numerical analysis of complex systems, modeling and analyzing complex networks, risk analysis, early warning systems, fundamentals of natural hazards, industrial risk, reinforcement learning, and data-driven control.</p> <p>During the first year, students select their research topics according to their interests among current, cutting-edge research projects. Examples of these research project proposals can be found on the MERC Ph.D. program website (see address below).</p> <p>Recipients of PNRR fellowships are expected to engage with research topics outlined in the PNRR plan, focusing on the advancement of both theoretical and applied knowledge within public research institutions. For more details, visit https://www.governo.it/sites/governo.it/files/PNRR.pdf.</p>
PROGRAM COORDINATOR	Prof. Mario di Bernardo
SCIENTIFIC REPORT	Scientific report in English (max. 2,500 words/15,000 characters, short bibliography included) with a description of the topic of the master's thesis or a scientific topic addressed subsequently by the candidate in the course of her/his experience, divided into sections illustrating the state of the art, objectives, results obtained, methodology used, and possible future developments.
COURSE LENGTH (IN YEARS)	4
ANNUAL GROSS AMOUNT OF THE SCHOLARSHIP	€19,000 + 50% increase of the monthly installment of the fellowship for stays abroad (for a maximum of 12 monthly installments)
RESEARCH BUDGET	10% of the fellowship in the first year, 20% of the fellowship in the three following years
PROGRAM'S E-MAIL ADDRESS	merc@ssmeridionale.it