

Call number	MERC_08
Research project's title	Modeling and Engineering Risk and Complexity
Description of the research project	<p>The research programme will focus on the development of new methodological approaches for the study, management and control of complex systems, the design and engineering of resilient systems and the analysis and management of risks (natural, anthropogenic, industrial and na-tech) and cascading effects. The programme focuses on the integrated description and management of phenomena affecting complex systems and the risks to which they are exposed, in different application domains, through the use of methods for mathematical, stochastic, computational and data-driven modelling.</p> <p>The programme is characterised by a strongly multi- and inter-disciplinary approach, based on the theory of dynamical systems and control, the study of complex systems, infrastructures and networks, the theory of reliability for the modelling of uncertainty, the analysis and management of risks deriving from natural and anthropic phenomena on complex and interdependent systems and the study of their emerging properties and domino and cascade effects.</p> <p>The candidate's activity should lie in at least one of the following three multidisciplinary research areas</p> <p>(i) modelling, analysis and control of non-linear, uncertain, complex and multi-agent systems and their applications via analytical and/or computational tools</p> <p>(ii) stochastic modelling and reliability theory with applications to the analysis and management of risks (natural, anthropogenic, industrial and na-tech) and cascading effects in complex systems</p> <p>(iii) Modelling and analysis of natural, Na-Tech, man-made and industrial hazards.</p> <p>The winners will carry out their research at the Scuola Superiore Meridionale of the Università degli Studi di Napoli Federico II in close collaboration with the research groups already involved in the activities of the PhD students active there. They will also be required to engage in the teaching and tutoring activities of the School, by either giving courses at PhD level or undergraduate level for the students of the School.</p>
S.S.D.	ING-INF/04, ING-INF05, ICAR/07, ICAR/09, ING/IND-27, FIS/02, FIS/06, MAT/06, MAT/08, SECS-S/02, GEO/10
Research areas	Industrial and Information Engineering; Civil Engineering; Economic and Statistical Sciences; Industrial Engineering; Physical Sciences; Earth Sciences; Mathematical and Computer Sciences

Scientific coordinator	Mario di Bernardo
Program duration	1 year, renewable up to 3
Salary	€ 35.000
Date of publication on the SSM website of the shortlist and dates of the interviews	28/03/2023
Website for information and notifications to the candidates	https://www.unissme.it/en-us/la-scuola#bandi-e-avvisi http://www.ssm.unina.it/en/postdoctoral-fellowships-calls-and-procedures/