



Università  
Ca'Foscari  
Venezia

**PROJECT ACRONYM AND TITLE:** Methodologies and solutions for Italy and USA.

**FUNDING PROGRAMME:** MAECI Italia- USA

**CALL:** Italy – USA Science and technology cooperation - Call for joint research proposals

**SCIENTIFIC FIELDS:** Resilience to natural disasters

**HOST DEPARTMENT:** DAIS – Department of Environmental Sciences, Informatics and Statistics

**SCIENTIFIC RESPONSIBLE:** Critto Andrea

**FINANCIAL DATA:**

Project total costs	Overall funding assigned to UNIVE
€ 49.958,00	€ 25.100,00

**ABSTRACT:**

There has been explosion of resilience-based methods and tools in the literature and practice to address community resilience, but development of comprehensive taxonomy and quantification tools to value chains is still lacking. Moreover, understanding the barriers to the adoption of resilience thinking through project life cycle is of crucial importance. We propose to: (i) classify and operationalize tools used in resilience analytics across the coastal infrastructure value chain, (ii) apply the tools to two case studies in the US and Italy, (iii) build US-Italy community of resilience practitioners and educators to sustain cross-disciplinary efforts in assessing and managing natural disasters in both countries. Scientific basis of proposed research emerges from activities in the US and Italy towards developing risk and resilience foundation for natural disaster management. Both Prof. Lambert and Prof. Critto organized several workshops focused on risk and resilience for natural disasters. A recently developed tiered approach for resilience assessment is central to current efforts of the PIs. With this approach, we will explicitly categorize tools in several tiers based on their analytical complexity and relevance to the mission of the decision maker. Resilience tools will be further operationalized through a resilience matrix and network science approaches that are designed to explicitly integrate various system domains depending on the life cycle stages of natural disaster and their connection to community resilience. The ultimate result is a resilience-based approach that quickly and efficiently improves cognitive decision making and trust with institutional players who must address a wide scope of adverse events. Both PIs are part of significant national and international projects, including chairing the 2019 Fifth World Congress on Risk, in Cape Town, and will be able to use their projects to build significant new collaboration of the two countries.

Planned Start date	Planned End date
18 <sup>th</sup> April 2019	16 March 2020

**PARTNERSHIP:**

<b>1.</b>	<b>Ca' Foscari University</b>	<b>Italy</b>	<b>Coordinator</b>
<b>2.</b>	<b>University of Virginia</b>	<b>USA</b>	<b>Partner</b>