

## Invited Lecture – Dr. Paolo Negro – Thursday, May 5 @17:30 (EET) – MS Teams

### ***Strategies for the combined improvement of seismic safety and environmental performance of the existing European building heritage***

The construction industry, as a main energy consumer and a foremost contributor to greenhouse gas emissions, has been undergoing a "green revolution" in the recent years. Sustainability has become a prominent issue, therefore, a framework for including energy efficiency and sustainability in the design of buildings is badly needed. Sustainability is the core of the European Renovation Wave strategy and of the New European Bauhaus initiative.

A design method named SAFESUST (SAFETy and SUSTainability) has been proposed at the Joint Research Centre of the European Commission, able to address at the same time structural safety, energy, and environmental performances. The output of this approach is a unique parameter, expressed in monetary terms, which helps in identifying the most appropriate design solution.

More recently, the Joint Research Centre, under mandate of the European Parliament, has activated a European Pilot Project named "Integrated techniques for the seismic strengthening and energy efficiency of existing buildings". The project is expected to put forward a simplified holistic approach to improve simultaneously the seismic safety and energy efficiency of the existing European building stock and to stimulate the use of integrated solutions.

The activity of the Joint Research Centre is also conducting a Preparatory Action for the definition of a labelling strategy for the implementation of the New European Bauhaus initiative.

#### **Short CV**

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Dr. Negro graduated in Civil Engineering from the University of Padua and holds a master's degree in Earthquake Engineering at the University of California at Berkeley and a Ph.D. from the University of Wales at Swansea.

Dr. Negro has a long experience and record of research activity and scientific policy advising in earthquake engineering and environmental design of buildings. Prior to working for the European Commission, Dr. Negro was a structural engineer and performed the design of civil and industrial buildings, with precast and prestressed elements, also with innovative solutions, mostly in seismic areas. As a consulting engineer, he contributed to the design of a nuclear and a thermal power plant and of maritime terminals as well as to the project for the reconstruction of two cathedrals destroyed by the Friuli Earthquake.

Dr. Negro has been leading many research projects at ELSA, serving as liaison member in the Technical Committee ISO TC71, Concrete, Reinforced Concrete and Prestressed Concrete, chairing two subcommittee in charge of drafting new norms, and in the Technical Committee TC13, Seismic Design, of the European Convention for Constructional Steelwork.

Dr. Negro has been representing the Joint Research Centre in the COST Action C25, Sustainability of Constructions, and is currently leading the JRC Action SAFESUST, Impact of sustainability and energy efficiency requirements on building design and retrofit. He is a member of the *fib* Commission COM7, Sustainability.

[Link to the online lecture](#)