

SPARC SEMINAR SERIES ON

# SEISMIC RESILIENT STRUCTURES

Achieving Resilience through Innovative Seismic Devices



**Organized by: Indian Institute of Technology Bombay, India and University College London, UK**

**Title of the talk:** Resilience and Robustness Oriented Design and Large-Scale Testing of a Base-Isolated Structures: The New Camerino University Research Center

**Speaker:**

Professor Andrea Dall'Asta  
Professor of Structural Engineering  
University of Camerino, Italy



**Date:** 26<sup>th</sup> November 2021

**Time:** 5:00 pm (IST) ; 11:30 am (GMT)

**Online Meeting Link:**

<https://kaksha.webex.com/kaksha/j.php?MTID=m944d43bfbf8c0b5161d1bb99f7d18d4b>



**Abstract of the Talk:**

Traditional seismic design methods, suggested by most current codes and guidelines are based on energy dissipation related to structural and foundation damage. This implies large direct and indirect losses in extreme events and notably reduces the overall resilience of affected communities.

In contrast, innovative technologies based on passive control, isolation, or energy dissipation systems, for example, offer the opportunity to preserve both structural and non-structural components from damage, hence contributing to the enhancement of resilience.

The presentation focuses on criteria used to design a base isolated construction, the new Research Centre of the University of Camerino, in order to obtain a high level of resilience and robustness of the building. Base isolated structures make it possible to study the effective behaviour under extreme events by static and dynamic (snap-back) in-field tests. The results obtained for tests involving building displacements up to 280mm (static) and 250mm (dynamic) are presented.

Seismic test of new Research Center of Camerino (<https://www.youtube.com/watch?v=YrBCuY5TdoI>)

**About the Speaker:**

Andrea Dall'Asta is Professor of Structural Engineering at the School of Architecture and Design of the University of Camerino, Italy. His research interests focus on the seismic reliability and structural resilience of new and existing structures including innovative solutions. Amongst others, his research covers the use of passive dissipative devices (e.g., seismic isolation, high damping rubber, and BRB devices) for the control of the seismic response of buildings and bridges; the development of innovative structural seismic resilient systems, and the uncertainty propagation and probabilistic assessment of the seismic risk.

In these and other topics, Prof. Dall'Asta has authored and co-authored more than 250 papers in International journals and conference proceedings. During his career, Andrea Dall'Asta coordinated and collaborated within several national and international research and design projects interacting with research groups in Europe, US, Asia and Australia.

He has also participated in various activities related to international code development and to committees formed by industry and other professional institutions/learned societies. Currently, since March 2014, he is Member of CEN-TC 250/SC 3/WG 13 and CEN-TC 250/SC 4/WG 3 focusing on the design of steel-concrete composite structures and of bridges and Vice-chairman of the National Committee for Standardization Sub-Commission on Steel and Concrete composite structure.

In addition, Dall'Asta has organized or headed committees on various local and international conferences such as the National Italian Conference of Earthquake Engineering (ANIDIS) of September 2019.