



Synergetic design, assessment and retrofitting approaches for sustainable and resilient communities

Dr. Anastasios Tsiavos

ETH Zurich

Wednesday, 6 October 2021, 17:00-18:00

WEBINAR: Invitation to a scheduled Zoom meeting.

Topic: Anastasios Tsiavos CEE Seminar Time: Oct 6, 2021 05:00 PM Athens

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Summary: Many existing buildings in Europe and worldwide do not comply with existing seismic code provisions, are energy deficient and subjected to deterioration processes, such as corrosion. Moreover, several existing seismic design and retrofit solutions are characterized by high carbon emissions. Therefore, there is a need for a holistic and synergetic approach in the design, assessment and retrofitting of existing structures. Along these lines, Dr. Tsiavos' research focuses on the proposal of novel, low-cost and sustainable seismic isolation strategies for the design of resilient structures. Moreover, Dr. Tsiavos investigates novel methodologies for the synergetic assessment and retrofitting of existing reinforced concrete and masonry structures, accounting for their seismic risk, their energy performance, their deterioration due to corrosion and their carbon footprint. Dr. Tsiavos' vision for civil engineering focuses on the development of performance objectives for our communities subjected to climate change, deterioration processes and natural hazards: What we expect the people, the infrastructure and the economy to do. Within this frame, this research aims to offer a new multi-performance and synergetic design, assessment and maintenance paradigm towards the development of sustainable and resilient communities.



Dr. Anastasios Tsiavos obtained a five-year diploma in Civil Engineering from National Technical University of Athens, Greece, in 2010, a Master of Civil Engineering from ETH Zurich (Switzerland) in 2012 and a Ph.D. in Earthquake Engineering from ETH Zurich in 2016.

Dr. Tsiavos worked as a Postdoctoral researcher between 2018-2019 at University of Bristol on the analytical and large-scale experimental investigation of innovative low-cost seismic isolation strategies for the reduction of seismic damage in developing countries. This experimental investigation has been performed using a 3mx3m shaking table at University of Bristol with a 6-degree-of-freedom motion testing capability. He is currently a Lecturer at ETH Zurich, teaching Courses in Seismic Evaluation and Retrofitting of Existing Buildings and Seismic Design and Evaluation of Bridges. He is interested in the analytical and experimental investigation of low-cost seismic isolation strategies and synergetic design, assessment and retrofitting methods.