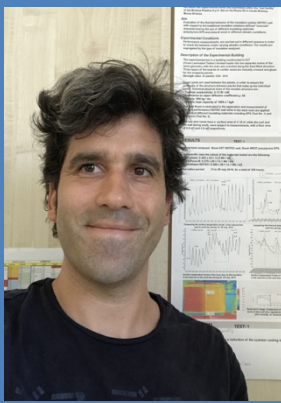


BIG energy seminar series

Addressing global energy challenges in scale and complexity.



High energy performance buildings: from passive to active design strategies

Salvalai Graziano
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Date: Tuesday, September 11th at 5:00pm

Location: [SEEC S228](#)

Abstract:

Buildings are responsible for approximately 40% of energy consumption and 36% of CO₂ emissions in Europe. Currently, about 35% of the EU's buildings are over 50 years old and almost 75% of the building stock is energy inefficient with an yearly energy consumption for heating close to 180 kWh/m². At the current state only less than 1% (depending on the country) of the building stock is renovated each year at which pace only 40% of the building will be renovated at 2050. Therefore, more mayor renovation of existing buildings has the potential to lead to significant energy savings and CO₂ emission, mainly in country like Italy in which the residential building stock is very old. This seminar will investigate residential building opportunities achieved through an holostic design approach and through new envelope technologies and strategies for deep renovation target. Different case study will be analyzed and discussed.

Bio:

Graziano Salvalai is assistant professor of Building and Architectural Engineering at the Politecnico di Milano University, where his teaching focuses on architectural technology, building energy simulation, passive and heating design strategies as well as sustainable building design. His research includes the design, simulation and testing of innovative envelope technology solutions for energy efficient and nerally zero energy buildings. He is part of the research group of REfurbishment and Energy Efficiency Lab (RE3_Lab - Politecnico di Milano - Lecco Campus). The research activities are often supported and tested in real experimental buildings. He is author and reviewer of several articles on international peer-review journals. He is part of the editorial board of Sustainability and review editor for Sustainable Design and Construction in Frontiers in the Built Environment journal.

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