



## Talk information

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**Title of the talk:** Building Energy Models, how to reduce the Energy Performance Gap

### Abstract of the talk:

Building Energy Models (BEMs) play a crucial role in predicting and optimizing the energy performance of buildings. Despite advancements in simulation technologies, a persistent challenge exists known as the Energy Performance Gap, where actual building energy consumption deviates from the predicted values. This exposition explores the factors contributing to the Energy Performance Gap and proposes strategies to mitigate this gap in building energy models. The study examines the accuracy of BEMs, the influence of calibration process, and the impact of external environmental factors on building energy performance. Solutions such as improved modeling techniques, integration of real-time data, and enhanced occupant engagement are discussed to bridge the gap between predicted and actual energy consumption. By addressing these issues, the research aims to provide valuable insights for practitioners, researchers, and policymakers to enhance the effectiveness of building energy modeling and ultimately achieve more accurate and sustainable building energy performance.

### Biography of the speaker:

Carlos Fernandez Bandera serves as an Assistant Professor at the School of Technology, University of Extremadura. Previously, he held the position of Associate Professor at the School of Architecture, Universidad de Navarra. His primary focus lies in bridging the Energy Performance Gap, where he has contributed as a Principal Investigator in various international, national, and regional projects. Dedicated to advancing building energy efficiency, his research encompasses various facets, evident in his diverse publications. Boasting a comprehensive educational background as a Graduate Engineer and Ph.D. in Architecture. He has garnered invaluable experience as a project manager in building construction over several years. This dual perspective integrates research and practical application seamlessly, infusing his work with real-world relevance. His professional journey adds a wealth of hands-on experience to his role, enhancing his contribution to the field.