

Full title of the paper

Energy-Efficient Building Envelopes in the Tropics

Synopsis (in not more than 200 words)

For decades, driven by consumer's demand, designers have been infatuated with seamless transparent building envelope. Since façade systems used in the building envelope induce a significant impact on energy efficiency, the occupants' interaction with the surrounding environment, and the indoor environmental quality performance of a building, it is increasingly and inevitably vital to examine the performance of the building envelope with regards to selection of materials, technologies, detailing and installation. Each of these intrinsic elements should possess characteristics congruent to pragmatic maintenance, economical operational cost and satisfactory occupants' comfort.

In this workshop, we will first proceed to an introduction to façade systems so as to set up a framework, we will then examine current strategies for designing and building energy-efficient building envelopes, and finally, we will glimpse at the possible future trends in green façades.

Short biography of the speaker (in not more than 200 words)

Through his training as a multi-disciplinary engineer, Mathieu has developed a broad spectrum of knowledge, including structural engineering, material sciences, fluid mechanics, thermodynamics, acoustics and optics. Competency in these various disciplines is especially useful for facade engineering. Mathieu's international education and experience greatly add to the team's overall knowledge base, including a strong background in material sciences. This is a valuable asset for a team which deals with glass, metals, coatings, and plastics on a daily basis. This gives Mathieu the ability to undertake projects with a holistic approach.

Mathieu has worked on several major construction projects in Singapore and Asia before joining Meinhardt Facade Technology. Through his previous experience as a structural engineer, Mathieu has also developed an extensive knowledge of Singapore local regulations and codes of practice.

With MFT, Mathieu has acquired experience in various aspects of facade engineering, including curtain walls, glass walls, aluminium and stone claddings, canopies, skylights, etc. Mathieu is now a regular contributor to international conferences and publications. Mathieu has been in charge of MFT Singapore since 2002.

Mathieu's experience in facade consultancy ranges from new mega-projects the like of Resorts World at Sentosa, The Dubai Mall and The Reflections condominium, to defects investigation and remedial works, such as the Mandarin Oriental Hotel in Kuala Lumpur.