



# IALCCE 2012

Third International Symposium  
on Life-Cycle Civil Engineering

3 - 6 October 2012  
Hofburg Palace, Vienna, Austria

## IALCCE

The Symposium is organized on behalf of International Association for Life-Cycle Civil Engineering (IALCCE) under the auspices of the University of Natural Resources and Life Sciences. IALCCE ([www.ialcce.org](http://www.ialcce.org)) is a young Association founded in October 2006. Its activities encompass all aspects of life-cycle assessment, design, maintenance, rehabilitation, and monitoring of civil engineering systems.

The International Symposium on Life-Cycle Civil Engineering is a biennial event. In 2012, Austria will host the Symposium for the first time. The IALCCE 2012 Symposium provides an opportunity for academics, engineers, architects, and builders from Austria, Europe, and around the world to keep themselves up to date with latest developments in the field of life-cycle civil engineering.

## Mini - Symposium MS 6-2:

### Life Cycle Design and Engineering of Facades and Building Envelopes

Oliver Englhardt, University of Technology, Graz, Austria  
Adolf Merl, PE Central and Eastern Europe, Vienna, Austria

Facades and building envelopes represent the architectural appearance of a building. They determine its visual identity and its integration in the urban context. On the other hand the facade or exterior envelope of a building is the element that makes the internal space habitable. It acts as a functional covering between inside and outside - as the buildings apparel. Allowing in beneficial elements of the external climate and restrain those less desirable. The demands on facade constructions are increasing continuously. First of all the performance criteria are driven by the need to reduce carbon emissions. The building envelope is the main element to improve a buildings energy efficiency and also can be used to produce thermal energy and/or electricity. Furthermore technical requirements are addressed to all aspects relevant to the human comfort in built environment.

Due to this the building facade takes on ever greater importance - proportionally does the level of technology involved and the need of high performance materials and construction products. The research and development of tech solutions concerning that requirements is probably greater than for any other element of a building.

When considering the facade and building envelope to fundamentally determine the building and environmental performance, particular attention has to be paid to all aspects of sustainability.

To obtain adequate and satisfactory results we have to develop holistic strategies from a life cycle perspective.

This means to take into consideration all phases of

- development, planning and design,
- construction,
- operation and maintenance,
- deconstruction and recycling

and all parameters such as

- construction materials and products,
- architectural and structural design,
- type of construction,
- environmental design,
- building services design,
- energetic performance,
- location, climate and microclimate, etc.

relevant to the building performance and the human comfort during a facades or building envelopes life time.