Introduction

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Building simulation has been in constant development for several decades. Taking advantage of the benefits of the increased computational power of personal computers, building simulations have become one of a number of common productivity tools available to practitioners and designers in the building physics and building energy systems sectors. As in similar cases, the increasing popularity of an instrument that was originally "just for insiders", raises some concerns over the proper use of building simulations, their correct application field and how to interpret accurately the increasingly detailed results being produced. More precise detail in hypotheses and input is required to perform a solid building simulation and this leads to a process of greater complexity, a lengthier time span and higher costs. Thus a sensible balance between effort and benefit and is required.

Therefore, it is not surprising that common topics of debate in the wider "building simulation" community are uncertainty and sensitivity analysis, simulation codes validation, input data measurement and analysis. The question is: how uncertain and reliable are the results due to the uncertainty of inputs and to the approximations introduced by some simplified algorithms?

A second trend, which has been consolidating with the enhancement of computation capabilities, is the development of more detailed and complex simulation approaches which integrate the different aspects that interact, such as thermal, humidity lighting, acoustics and the related comfort considerations. Building simulations are extending the possibilities to go into even more detail in the analysis of the complex phenomena that can lead to a building performing well. Moreover, the simulation scale of the considered subjects is widening from the human to the urban, ranging from physiology and psychology to meteorology.

Further, yet more in general: what are building simulations useful for? And in particular, what are the novel applications of building simulations? Calibrated simulations for energy diagnosis, model predictive control, simulation predictive control, multi-objective optimization, and so on, are just a part of the answer. It is likely much more will be invented in the future.

All the above, combined with the catalytic effect of the current sensitivity to energy and environmental issues, especially in the building sector, would make it indubitably worthwhile to have a further building simulation conference. The first was in Italy, where the broad range of widely variable climatic conditions put the performance of more simplified approaches and design criteria to the test. This was the first of a series of occasions to be developed in Bolzano, the region that has brought us CasaClima/KlimaHaus and was the first attempt to effect changes in the design and building approach for higher performance buildings.

This was the context in which the first IBPSA-Italy conference took place at the Free University of Bozen/Bolzano from January 30 to February 1, 2013, and which enjoyed positive outcomes . The event comprised more than 70 delegates, 118 authors, 44 presentations and two keynote speeches.

The event was much more than just a national meeting, thanks to the special presence of Jan Hensen and Ardeshir Mahdavi who captured the audience with their keynote speeches on "Computational building energy simulation for design of high-performance buildings" and on "Predictive building systems control logic with embedded simulation capability: experiences, challenges, and opportunities" respectively. The event also provided a valuable opportunity to

discuss with an international audience, thanks to the participation of delegates from several countries abroad.

It was also something more than a scientific conference due to its explicit focus on the application potential of building simulations and on the strategies for the diffusion of the use of building simulations outside of research institutions and this was proved by the final round table open to the public. A hundred delegates, the participation of local professional associations of engineers and architects, of the AICARR (the Italian Association of Air conditioning, heating and refrigeration) and the CTI (the National Thermo-technical Committee, in charge of the development of technical standards), of the IBPSA-Italy and the IBPSA-Germany/Austria and the presence of the ANDIL (the Association of Italian Clay Brick and Roof Tile producers) mean that there is every confidence of an even brighter future for Building Simulation applications in Italy.