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Building Simulation Applications BSA 2022

5th IBPSA-Italy Conference

Bozen-Bolzano, 29th June – 1st July 2022

Edited by

Giovanni Pernigotto, Francesco Patuzzi,

Alessandro Prada, Vincenzo Corrado, Andrea Gasparella

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Preface

The participation of about 100 attendees at the fifth Building Simulation Applications BSA2022 Conference, one of the first IBPSA conferences held entirely in presence after the pandemic outbreak, can certainly be claimed as a step forward in the process of overcoming the constraints and limitations imposed by the years of the Covid-19 pandemic.

11 conference sessions in two parallel tracks, 66 presentations reporting the contributions by more than 180 authors are some of the most significant figures of this event. In addition, confirming an international profile and its inclusivity call, the Conference saw a small but significant presence of delegates from abroad, especially from Austria and India.

As the previous editions, BSA 2022 focused on providing an overview of the latest applications of building simulation in the following three main fields: the use of simulation for building physics applications, such as building envelope and HVAC system modelling and their design and operation optimization; global performance and multi-domain simulations; the development through simulation of new methodologies, regulations, as well as new calculation and simulation tools.

Nonetheless, the times urged to address indoor air quality, the main topic of this edition, emphasizing the role of simulation to assess strategies able to ensure healthy and safe indoor conditions for occupants.

The engaging opening speech about “The Role of IBPSA and Post-Covid Simulation” by Prof. Lori McElroy, President of IBPSA, was followed by two innovative and capturing keynotes, “Simulation and Optimization: Supporting Building Decarbonization” by Prof. Paolo Baggio, University of Trento, Italy, and “Going Digital – Infrastructure Modeling for Resilience and Decarbonization”, by Dr. Drury B. Crawley, vice-President of IBPSA.

The conference also devoted some time to the analysis and discussion of the use of building simulation among building professionals and specialists in terms of education: The “3rd Student School on Building Performance Simulation Applications” addressed the use of building performance simula-

tion in the context of building rating systems and in relation with BIM. We also had an interesting conversation with Lori McElroy on the topic of “Building Simulation in the Profession: Work in Progress”, discussing the current most critical aspects and challenges. Finally, after the conference closing ceremony on the third day, the “Round Table for Designers and Practitioners” featured four professional experiences about the use of building simulation, with a discussion about errors, challenges, and opportunities.

The fifth edition of the BSA conference represented an opportunity to restart and revitalize the process of reducing the gaps between academia and the professional world, of rethinking the role of building simulation in the design practice for future buildings, and of opening in the face of unprecedented challenges and opportunities of a new post-pandemic society.

Andrea Gasparella, Free University of Bozen-Bolzano