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EDITORIAL

Building Simulation: New Journal, New Start

It is with great pleasure and excitement that we announce the establishment of this new journal: ***Building Simulation: An International Journal*** (or ***Building Simulation***). This academic journal will be the first publication which focuses purely on the important topics described by the term Building Simulation. The goal is to promote building research and application by utilizing various modeling approaches. There has been strong need worldwide to strengthen information exchange in this area. A dedicated journal would be an ideal vehicle to publish and disseminate relevant research findings. Springer and Tsinghua Press are collaborating with the Penn-Tsinghua T.C. Chan Center for Building Simulation and Energy Studies to publish this journal for the international community.

Building Simulation will publish original, high quality, peer-reviewed research or review articles dealing with modeling and simulation of buildings, including their systems, such as:

- Theoretical and numerical modeling of building physics, including heat and mass (moisture, air pollutants) transfer, air movement, architectural lighting and sound/vibration control systems;
- Simulation of performance of energy supply systems, including heating, ventilation and air-conditioning systems, renewable energy systems, thermal storage, district heating and cooling, combined heating and power systems;
- Modeling the health, productivity, thermal comfort of humans, as well as fire/smoke and emergency control systems, cold/hot water supply systems, sewage systems, simulation of building chemistry;
- Advances in modeling including optimization, product modeling, fault detection and diagnostics, inverse models;
- Advances in software interoperability, validation and calibration techniques;
- Simulation tools for sustainable buildings and experiences in teaching building simulation.

All these topics may be addressed from urban scale to microscopic scale, and for different phases during the building life cycle, from schematic design, to detailed design to construction, commissioning, operation, control and maintenance of new and existing building.

The above scope will evolve as the field of building simulation evolves. Authors are encouraged to contribute papers from different angles of interest, making ***Building Simulation*** a dynamic channel and valuable resource for new scientific findings and engineering applications. Please visit the journal website, **http://www.springer.com/journal/12273**, for further information regarding paper submission and detailed instructions for authors. Visitors can also subscribe free of charge to a Table of Contents email alerting service. This informs the reader when a new issue is published and of the contents of that new issue. An accepted paper is immediately posted as Online First on the SpringerLink site for the journal; the unique Digital Object Identifier (DOI) allows other researchers to cite the paper, even when it has not yet been assigned a volume and issue number.

The journal will be published quarterly. This first issue contains eight carefully selected review or research papers, falling into the following five fixed columns of the journal:

A. Building thermal, lighting, and acoustics modeling
B. Building systems and components
C. Indoor/outdoor airflow and air quality
D. Architecture and human behavior
E. Advances in modeling and simulation tools

I am taking this opportunity to introduce the inaugural editorial board members. The board has an Editor-in-Chief, three associate editors, and 30 editorial board members who are the world's leading experts in building simulation field. The Editor-in-Chief, Professor Xudong Yang of Tsinghua University, is responsible for day-to-day operations, assignments, and overall quality control of papers. The associate editors, Professor Yi Jiang of Tsinghua University, Professor Jean Lebrun of the University of Liège and Professor Ali Malkawi of the University of Pennsylvania, will each be responsible for submissions, reviewing, and recommendations of papers in each of the above fixed columns. Brief curriculum vitae of the Editor-in-Chief and associate editors can be found at the end of this editorial.

The editorial board has a long priority list; on the very top of it is the quality control of the papers. In order to ensure this journal the highest possible quality, the editorial board has decided to impose a strict standard in the paper

review process. All submitted papers are prescreened according to the journal's aims and scope as well as the journal's format. Only those papers that have passed the initial screen and are assessed by the Editors as potentially acceptable are reviewed. Each paper is reviewed by two to three reviewers, and the review is double-blinded to avoid any potential conflict of interests. To ensure the best production quality, ***Building Simulation*** publishes all figures and illustrations in color and free of charge.

The editorial board is committed to a quick review and production process. The aim is to complete the entire paper processing from initial submission within three to five months. This can be achieved only with collective efforts from all the parties involved—the authors, reviewers, editorial stuff, and the publishers.

I am very excited to have the opportunity to serve as the Editor-in-Chief for this journal. Initiating and running an international journal is a team effort. Many colleagues and friends have offered strong support without which this journal would not be possible. I would like to first thank all of the authors for their contributions, and all invited reviewers for their detailed review and insightful comments on the papers. Establishment of this new journal gained strong support from faculty, staff, and students in the Department of Building Science, Tsinghua University. The publishing editor, Ms. Jie Zeng, works tirelessly and professionally to make this journal a reality. Mr. Mark de Jongh of Springer offered invaluable help and advice during the journal establishment process. Last but not least, I am in debt to all associate editors, assistant editors (Drs. Bin Zhao and Da Yan) and editorial assistant (Ms. Fang Wang) for their hard and effective work.

As Editor-in-Chief of ***Building Simulation***, and on behalf of the entire editorial board, I invite you to submit your review or research papers, and also to invite your readership to this international journal.

Should you have questions and/or comments please feel free to contact us.

Xudong Yang, Ph.D.
Editor-in-Chief
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Professor Xudong Yang

Xudong Yang is currently the Chang-Jiang Professor in the Department of Building Science, Tsinghua University, China. He received his B.S. and M.S. degrees in Thermal Engineering from Tsinghua University, and a Ph.D. degree in Building Technology from Massachusetts Institute of Technology (MIT) in 1999. After that, he became a faculty member at the University of Miami, USA and received tenure in 2005. His areas of expertise include indoor air pollutant modeling and control technologies, application of computational fluid dynamics (CFD) and multi-zone modeling tools in building performance simulation, and building energy simulations. He was the first to develop the multi-layer mass-transfer based volatile organic compound (VOC) emission model for "wet" materials, and is the leader of a comprehensive indoor air quality simulation program ACCESS-IAQ (A Code for Characterizing Emission Sources, Sinks, and Indoor Air Quality). Professor Yang also works on improving the energy efficiency and indoor environmental quality of China's rural houses.

Professor Yang received numerous awards including the Research Career Award from the U.S. Centers for Disease Control and Prevention, the New Investigator Award from the ASHRAE, and the Advance in Science and Technology Award from the Chinese Ministry of Education. He is author or co-author of five books, 40 international journal papers, and 30 papers in conference proceedings. He is an active member of ASHRAE, IBPSA- China and served as secretary of ASHRAE Technical Committee 4.3 (Ventilation Requirement and Infiltration). He was co-editor for Proceedings of the 10th International Conference on Indoor Air Quality and Climate (Indoor Air 2005) and the 10th International Building Performance Simulation Association Conference (Building Simulation 2007), and a guest editor for *Atmospheric Environment* and *Building and Environment*. Professor Yang currently serves as associate editor for *Building and Environment* and editorial board member for *Journal of the IEST*.

Professor Yi Jiang

Professor Yi Jiang is currently Professor and Vice Dean of the School of Architecture, Tsinghua University and Head of the Department of Building Science. He is also Director of Tsinghua Center for Building Energy Research and Co-Director of the Penn-Tsinghua T.C. Chan Center for Building Simulation and Energy Studies. Professor Jiang is a member of the Chinese Academy of Engineering.

Professor Jiang received his B.S, M.S, and Ph.D. degrees in building services engineering from Tsinghua University. He started his academic career at Tsinghua University in 1984. Since then, he has generated more than 130 research publications in journals covering a wide range of topic areas related to building science and technology; meanwhile he has received numerous awards from government and associations for his achievements in the research and development of building performance simulation. He is the leader in applying computer simulation technology to building and HVAC systems in China. Professor Jiang has been the principal investigator for over 100 major projects related to building energy efficiency & built environments, HVAC engineering, urban energy planning, and building automation. Under his leadership, DeST, an integrated building simulation tool, has been developed. As a major building energy simulation tool, DeST has been broadly used for building envelope design optimization, building energy conservation assessment and different areas of HVAC scientific research. Up to now, DeST has been used for hundreds of projects totaling about 20 million square meters of building's design and commissioning, including 12 Olympic Games buildings in Beijing, the State Grand Theatre of China, etc. Professor Jiang has received numerous national and international awards including the National Award in Progress in Science and Technology of China in 1996, National Technical Invention Award in 2007, and the IBPSA Distinguished Service Award in 2007. His many other professional positions include Senior Consultant to the Beijing Government; member of consultant group of Chinese Ministry of Construction (MOC) (for building energy efficiency & intelligent buildings), Vice President of the Chinese HVAC Association, and Vice President of the Chinese Association of Refrigeration.

Professor Jean Lebrun

Professor Jean Lebrun was born in Belgium in 1943. He got his diploma of electro-mechanical Engineer and his Ph.D. at the University of Liège in 1966 and 1971. He was assistant at the University of Liège from 1966 to 1972 and visiting professor at the University of Concepcion (Chile) in 1972 and 1973. From 1973, he continued his career at the University of Liège, where he has been head of the Thermodynamics Laboratory since 1985 and full professor since 1989.

At the University of Liège he is teaching and conducting research in the field of applied thermodynamics, thermal machineries, thermal systems and HVAC. Outside the University, he has been and is still involved in various research projects and organizations as: Coordinator of the Belgian National Research- Development "Energy" Program from 1977 to 1982, Belgian representative at the executive committee "Energy Conservation in Building and Community Systems" of the International Energy Agency from 1978, operating agent of four IEA-BCS projects (Annex 10 "System Simulation" 1982 – 1987, Annex 17 "Evaluation and EMULATION of BEMS" 1988 – 1992, Annex 30 "Bringing Simulation to Application" 1995 – 1998 and Annex 48 "Heat Pumping and Reversible Air Conditioning" from 2005), member of ASHRAE Technical Committee 4.6 from 1982, member of the board of ATIC (Belgian HVAC Society) from 1983, principal investigator in two ASHRAE research projects about

simulation of HVAC equipment from 1990 to 1993, member of the editorial committees of the *ASHRAE Research Journal* from 1990 to 2000, member of the editorial committee of the *International Journal of Thermal Sciences* from 1994 to 2007, member of the editorial board of the *Journal of Building Performance Simulation* from 2008, chair of the CLIMA 2000 technical committee in 1997, chair of the international conferences on "System Simulation in Buildings" (SSB) in 1982, 1986, 1990, 1994, 1998, 2002 and 2006; and visiting professor in various teaching institutions.

Professor Lebrun got the ATIC Henry Marcq Award in 1971, the IBPSA award in 1997, the AICVF André Missenard award in 1998, the nomination as ASHRAE Fellow in 2001 and the RHEVA Ole Fanger award in 2007. He is author or co-author of more than 250 scientific papers.

Professor Ali Malkawi

Dr. Malkawi is a Professor at the University of Pennsylvania. He teaches architectural technology and computation and conducts research in the areas of computational simulation, building performance evaluation and advanced visualization. He is Director of the T.C. Chan Center for Building Simulation and Energy Studies at Penn—a global initiative which seeks to create healthier, more productive, energy efficient strategies for high performance buildings and sustainable environments. Dr. Malkawi received his B.S. in Architectural Engineering and Environmental Design from Jordan University of Science and Technology in 1989, MArch from the University of Colorado in 1990 and his Ph.D. from Georgia Institute of Technology in Architecture Technology/ Artificial Intelligence in 1994.

Dr. Malkawi has lectured at numerous universities and conferences. He is the author or co-author of over 60 scientific papers. He is co-editor of two definitive books on the subject of computationally-driven design and simulation: *Advanced Building Simulation* and *Performative Architecture—Beyond Instrumentality*.

Dr. Malkawi serves as board member and scientific reviewer for leading journals and conferences, is consulted worldwide on many high profile projects and has taught and conducted research at Georgia Institute of Technology, University of Michigan and Harvard University.