



Table of Contents

Sunshades and Their Acoustical Performance	1
<i>Tamar, Bleiberg; Edna, Shaviv</i>	
Simulation of Tubular Daylighting Devices and Daylighting Shelves in EnergyPlus	12
<i>Peter G., Ellis; Richard J., Strand; Kurt T., Baumgartner</i>	
Comparative Analysis of One-Dimensional Slat-Type Blind Models	20
<i>Chanvit, Chantrasrisalai; Daniel E., Fisher</i>	
Design and Optimization of Displacement Ventilation Systems in Large Retail Stores	30
<i>Peter, Alspach; Isabelle, Lavedrine</i>	
An Extended Model for Under Floor Air Distribution	39
<i>Q. A., Liu; P. F., Linden</i>	
Flow in an Underfloor Plenum	46
<i>P. F., Linden; I., Kanda; D., Yamaguchi</i>	
The Simulation of Hybrid and Natural Ventilation; Can European Skills Tools Translate into a North American Context?	51
<i>Jon W., Hand; Ryan, Southall</i>	
Experience Testing EnergyPlus with the ASHRAE 1052-RP Building Fabric Analytical Tests	60
<i>Michael J., Witte; Robert H., Henninger; Drury B., Crawley</i>	
Converging on a Recommended Set of Interpretations and Assumptions in Applying Standard Tests to Energy Analysis Tools	68
<i>David E., Bradley; Michaël, Kummert; Timothy P., McDowell</i>	
Resources for Teaching Building Energy Simulation	78
<i>Richard K., Strand; Richard J., Liesen; Michael J., Witte</i>	
Near Real-Time Weather Data Archive	86
<i>Nicholas, Long</i>	
Modeling of a Thermal Mannequin in Flovent	89
<i>Vaibhav, Potnis</i>	
Finer Nuances of Modeling Evaporation Using Computational Fluid Dynamics	95
<i>Neeraj, Kapoor</i>	
Pressure Boundary Conditions in Multi-Zone and CFD Program Coupling	103
<i>Zhiqiang (John), Zhai; Yang, Gao; Qingyan (Yan), Chen</i>	
A Simulation Tool for the Study of Urban Heat Island Mitigation	114
<i>Harvey, Bryan; Agarwal, Vidhi; Porus Sam, Antia</i>	
The Development of Improved Energy Efficient Housing for Thailand Utilizing Renewable Energy Technology	119
<i>Sakkara, Rasisuttha; Jeff, Haberl</i>	
Evaluating the Evolution of Garden Office Typology and Determining Its Performance	129
<i>Shruti, Narayan</i>	
Modeling of Ventilation Air Heat Recovery and Its Impact in High-Performance Green Buildings	135
<i>Sam, Nuernberger; Andrew, Lau</i>	
Simplified Modeling of Transient Distribution System Efficiency for Ducts in Attics	143
<i>Michael J., Brandemuehl; Peter, Alspach</i>	

Development of Trade-Off Equations for Energystar Windows	151
<i>Joe, Huang; Robin, Mitchell; Steve, Selkowitz; Dariush, Arasteh; Bob, Clear</i>	
Implementation of Two-Dimensional Foundation Model for Radiant Floors into EnergyPlus	160
<i>Pyeongchan, Ihm; Moncef, Krarti</i>	
Variable Heat Recovery in Double Bundle Electric Chillers	172
<i>Richard J., Liesen; Rahul J., Chillar</i>	
Analysis of Air-Conditioning Options for Fourteen Existing Schools in Colorado	180
<i>Tracy, Phillips; Donald J., Frey; V. Robert, Salcido</i>	
Improvement of the ASHRAE Secondary HVAC Toolkit Simple Cooling Coil Model for Simulation	189
<i>Rahul J., Chillar; Richard J., Liesen</i>	
Exploring Performance Query Space	196
<i>Smita, Gupta; Ardesir, Mahdavi</i>	
The Practical Application of Building Simulation Tools in Designing a Real Building	203
<i>Peter, Simmonds; Bungane, Mehломakulu</i>	
An Analysis of Design Strategies for Climate-Controlled Residences in Selected Climates	218
<i>Sopa, Visitsak; Jeff S., Haberl</i>	
IFC HVAC Interface to EnergyPlus - A Case of Expanded Interoperability for Energy Simulation	229
<i>V., Bazjanac; T., Maile</i>	
Specification and Implementation of IFC Based Performance Metrics to Support Building Life Cycle Assessment of Hybrid Energy Systems	236
<i>Elmer, Morrissey; James, O'Donnell; Marcus, Keane; Vladimir, Bazjanac</i>	
Comprehensive Community NOx Emission Reduction Methodology: Overview and Results from the Application to a Case Study Community	244
<i>Yong Hoon, Sung; Jeff, Haberl</i>	
Development of an Energy Savings Benchmark for All Residential End-Uses	255
<i>Robert, Hendron; Ren, Anderson; Craig, Christensen; Mark, Eastment; Paul, Reeves</i>	
EnergyPlus: An Update	
<i>Drury B, Crawley Linda K., Lawrie Curtis O., Pedersen Frederick C., Winkelmann Michael J., Witte Richard K., Strand Richard J., Liesen Walter F., Buhl Yu Joe, Huang Robert H., Henninger Jason, Glazer Daniel E., Fisher Don B., Shirey III Brent T., Griffith Peter G., Ellis Lixing, Gu</i>	263
Simulation Synergy: Expanding TRNSYS Capabilities and Usability	271
<i>Timothy P., McDowell; David E., Bradley; Jeff W., Thornton; Michael, Kummert</i>	
Usage of Building Energy Simulation for HVAC Fault Detection	277
<i>Seung Uk, Lee; David E., Claridge</i>	
Simulation for Refrigerant Charge Diagnostics in Supermarket Applications	285
<i>Kiengkrai, Assawamartbunlue; Michael, Brandemuehl</i>	
A Simulation-Based Testing and Training Environment for Building Controls	295
<i>Peng, Xu; Philip, Haves; Joe, Deringer</i>	
A Simulation Tool for the Optimization of Advanced Facades	302
<i>M. A., Lehar; L. R., Glicksman</i>	

Development and Application of an Inverse Building Model for Demand Response in Small Commercial Buildings	310
<i>Kyoung-ho, Lee; James, Braun</i>	
Investigation of Reinforcement Learning for Building Thermal Mass Control	322
<i>Simeng, Liu; Gregor P., Henze</i>	
Application of CFD Tools in Building Engineering and Fire Simulation	333
<i>Juan, Abanto; Daniel, Barrero; Marcelo, Reggio; Jean-Philippe, Hardy; Benoit, Ozell</i>	
CFD Analysis Challenges in Building Simulation for SimBuild 2004 Conference	344
<i>Ferdinand, Schmid; Galen, Burrell</i>	
Simulation of Radiant and Conductive Strategies Applied to Task / Ambient Conditioning	353
<i>Aalok, Deshmukh</i>	
Performance Analysis of a Residential Ground Source Heat Pump System with Antifreeze Solution	360
<i>M., Khan; J., Spitler</i>	
BuildingPI: A Future Tool for Building Life Cycle Analysis	370
<i>James O'Donnell; Elmer, Morrissey; Marcus, Keane; Vladimir, Bazjanac</i>	
Validation of the Thermal Effect of Roof-Spraying and Green Plants in an Insulated Building	378
<i>Nan, Zhou; Weijun, Gao; Chris, Marnay; Masaru, Nishida; Toshio, Ojima</i>	
Whole Year Analysis of TIM-PCM Solar Thermal Storage Wall	386
<i>Dariusz, Heim</i>	