



Table of Contents

Experience Testing EnergyPlus with the IEA HVAC BESTEST E300-E545 Series and IEA HVAC BESTEST Fuel-Fired Furnace Series	1
<i>Michael J., Witte; Robert H., Henninger; Drury B., Crawley</i>	
Using EnergyPlus for California Title-24 Compliance Calculations	9
<i>Joe, Huang; Norman, Bourassa; Fred, Buhl; Ender, Erdem; Rob, Hitchcock</i>	
Simulation Model for Energy Performance and User Comfort Evaluation of Atrium Buildings	17
<i>Özgür, Göçer; Aslıhan, Tavil; Ertan, Özkan</i>	
Simulation of Double-Skin Facades for Hot and Humid Climate	25
<i>Matthias, Haase; Alex, Amato</i>	
A Library of HVAC Component Models for Use in Automated Diagnostics	34
<i>Peng, Xu; Philip, Haves; Dimitri, Curtil</i>	
Automated Multivariate Optimization Tool for Energy Analysis	42
<i>Peter G., Ellis Brent T., Griffith Nicholas, Long Paul, Torcellini Drury, Crawley</i>	
A Multiple-Building Optimization Scheme Based on Statistical Building-Load Models	49
<i>Leslie K., Norford; Hai-Yun, Xing</i>	
Implementation of an Earth Tube System into EnergyPlus Program	58
<i>Kwang Ho, Lee; Richard K., Strand</i>	
The Simulation of a Renewable-Energy-Powered Hydrogen-Based Residential Electricity System	67
<i>Ian, Beausoleil-Morrison Maria, Mottillo Alex, Ferguson Hajo, Ribberink</i>	
<i>Libing, Yang Kamel, Haddad</i>	
Methodology for Analyzing the Technical Potential for Energy Performance in the U.S. Commercial Buildings Sector with Detailed Energy Modeling	75
<i>Brent, Griffith; Drury, Crawley</i>	
A Scenario Analysis of Retrofit Strategies for Reducing Energy Consumption in Norwegian Office Buildings	82
<i>Lisa A., Engblom; Leon R., Glicksman; Leslie K., Norford</i>	
Evaluation of Demand Shifting Strategies with Thermal Mass in Two Large Commercial Buildings	91
<i>Peng, Xu</i>	
Development of Methods for Determining Demand-Limiting Setpoint Trajectories in Commercial Buildings Using Short-Term Data Analysis	99
<i>Kyoung-ho, Lee; James, Braun</i>	
Evaluation of Methods for Determining Demand-Limiting Setpoint Trajectories in Commercial Buildings Using Short-Term Data Analysis	107
<i>Kyoung-ho, Lee; James, Braun</i>	
A Statistics-Based Method for Hourly Solar Radiation Estimation	115
<i>Huang, Zhizhong; Pan, Yiqun</i>	
A Calibrated Computer Model for the Thermal Simulation of Courtyard Microclimates	121
<i>Amr, Bagneid; Jeffrey, Habert</i>	
Performance of High-Performance Glazing in IECC Compliant Building Simulation Model	129
<i>Jaya, Mukhopadhyay; Jeff S., Habert</i>	

Evaluating Fenestration Products for Zero-Energy Buildings: Issues for Discussion <i>Dariush, Arasteh Charlie, Curcija Joe, Huang Charlie, Huizenga Christian, Kohler</i>	140
Energy Simulation of a Double Skin Facade: A Process Using CFD and EnergyPlus <i>Alexandra (Aleka), Pappas; Zhiqiang (John), Zhai</i>	145
A Model for Naturally Ventilated Cavities on the Exteriors of Opaque Building Thermal Envelopes <i>Brent, Griffith</i>	153
Analysis Process for Designing Double Skin Facades and Associated Case Study <i>Ian, Doebber; Maurya, McClintock</i>	160
Building as a Learning Tool: Facility Management and Simulation in the Classroom <i>Steve, Morlino; Rodney, Williams; Edward, Brzezowski</i>	168
Using Simulation Tools in a University Laboratory Course: Assessing the Performance of a Health-Care Center in Lusaka, Zambia <i>Leslie K., Norford</i>	174
The Energy Performance of the Cold-Formed Steel-Frame and Wood-Frame Houses Developed for Thailand <i>Prechaya, Mahattanatawe; Charunpat, Puvanant; Darunee, Mongkolsawat</i>	183
Low Energy Cooling Technologies for Sub-Tropical/Warm Humid Climate Building Systems <i>Ashfaq Ahmed, Chowdhury; Mohammad Golam, Rasul; Mohammad Masud Kamal, Khan</i>	191
An Analysis of Building Envelope Upgrades for Residential Energy Efficiency in Hot and Humid Climates <i>Mini, Malhotra; Jeff, Haberl</i>	200
Whole-House Energy Analysis Procedures for Existing Homes <i>Robert, Hendron</i>	210
Validation of a Multi-Zone Model with Integrated Energy Equation and Impact of Thermal Mass Modeling Methodology <i>Jinchao, Yuan; Leon R., Glicksman</i>	220
Advances on the Coupling Between a Commercial CFD Package and a Component-Based Simulation Program <i>Diego, Arias</i>	231
Radiant Slab Cooling: A Case Study of Building Energy Performance <i>Zhen, Tian; James A., Love</i>	238
Radiant Slab Cooling: A Field Study of Occupant Thermal Comfort <i>Zhen, Tian; James A., Love</i>	245
The Application of Building Energy Simulation and Calibration in Two High-Rise Commercial Buildings in Shanghai <i>Yiqun, Pan; Zhizhong, Huang; Gang, Wu; Chen, Chen</i>	252
Modelica Versus TRNSYS - A Comparison Between an Equation-Based and a Procedural Modeling Language for Building Energy Simulation <i>Michael, Wetter; Christoph, Haugstetter</i>	262
The MIT Design Advisor - A Fast, Simple Tool for Energy Efficient Building Design <i>Bryan, Urban; Leon, Glicksman</i>	270
Qualitative Archi Bond Graphs for Building Simulation of People Behaviour and Energy Variation <i>Jerry Jen-Hung, Tsai; John S., Gero</i>	277

Using Video for Analyzing Daylight Simulation Tools	285
<i>Daniel C., Glaser; F. Whitney, Smith; Barb, Cutler</i>	
IFC to CONTAM Translator	293
<i>Mangesh, Basarkar; Muthusamy, Swami</i>	
Natural Ventilation Measurements and Simulation at Two Milwaukee Nature Centers	302
<i>David E., Bradley; D. Michael, Utzinger</i>	