

# 2007 ASHRAE Annual Meeting ■ June 23-27 ■ Conserving Natural Resource Use In Buildings ■ Long Beach, CA

Program Tracks	SUNDAY JUNE 24th			MONDAY JUNE 25th			TUESDAY JUNE 26th		
<b>Applications</b>	<i>Seminar 5</i> Natural Ventilation in Schools: Boon or Bust? 8:00am-9:30am   <i>Seminar 7</i> Testing and Using Radiant Heating and Cooling Systems 8:00am-9:30am   <i>Seminar 8</i> Acoustics for Green Buildings 11:00am-12:30pm   <b>B</b>	<i>Seminar 9</i> Application of Simulation in the 2007 Solar Decathlon Competition 11:00am-12:30pm   <i>Seminar 14</i> New Developments in Residential Ventilation 11:00am-12:30pm   <i>Seminar 15</i> Acoustics vs. Seismic: Point of View of the Acoustician, OEM, Seismic Hardware Manufacturer and Code Official 1:30pm-3:00pm	<i>Seminar 16</i> Benchmarking the Energy Performance of Commercial Buildings 1:30pm-3:00pm   <i>Seminar 23</i> New Development of Cleanroom HVAC Technologies 3:15pm-4:45pm	<i>Seminar 25</i> Energy Efficiency and Innovations in Commercial Kitchens 8:00am-9:30am   <i>Seminar 28</i> Moisture Management Issues in Residential and Commercial Buildings Part 1 8:00am-9:30am   <i>Seminar 30</i> New ASHRAE Seismic Resistant Standard and California Seismic Code Review 8:00am-9:30am   <b>B</b>	<i>Seminar 37</i> Natural Ventilation: Modeling and Measurements, Part 2: Case Studies 9:45am-10:45am   <i>Seminar 38</i> Fire and Other Issues of CKV Duct Systems, Part 1 9:45am-10:45am   <i>Seminar 41</i> Residential DHW: Distributing Hot Water 11:00am-12:00pm   <b>B</b> <i>Seminar 42</i> Fire and Other Issues of CKV Duct Systems, Part 2 11:00am-12:00pm	<i>Seminar 52</i> Thermal Comfort and IAQ in Naturally Ventilated Environments 8:00am-9:30am   <i>Forum 5</i> Dedicated Outdoor-Air Systems (DOAS): What Information is Required to Develop a Uniform Design Guide? 9:45am-10:45am   <b>B</b> <i>Forum 6</i> Do We Need Drier Air In Buildings? 9:45am-10:45am	<i>Forum 7</i> Measurement of Gas Phase Contaminants: Input for Guideline GPC27P 9:45am-10:45am   <i>Transactions Session 3</i> Improvements in Manufactured Housing 11:00am-12:30pm   <i>Seminar 57</i> High Rise Residential Building HVAC Systems 11:00am-12:30pm   <i>Seminar 59</i> Novel Applications of Radiant Cooling with GSHPs 11:00am-12:30pm		
<b>Business Management</b>	<i>Seminar 17</i> First Time at an ASHRAE Meeting? This Seminar's for You! 1:30pm-3:00pm   <b>B</b>	<i>Seminar 21</i> How to Give More Effective Presentations 3:15pm-4:45pm   <b>B</b>	<i>Seminar 22</i> Lessons Learned: Case Studies From the Real World of Lawsuits 3:15pm-4:45pm   <b>A</b>	<b>Program Session Ratings</b> <b>A=Advanced      B=Basic      I=Intermediate</b>					
<b>Fundamentals</b>	<i>Transactions Session 1</i> How Low Can You Go? Case Studies of Low-Energy Buildings 8:00am-9:30am   <i>Seminar 1</i> Chilled Beams: Research and Case Studies of Benefits 8:00am-9:30am   <i>Seminar 6</i> Moisture Performance of Details, Part 1: Claddings, Flashings, Wall Penetrations, etc. 8:00am-9:30am	<i>Seminar 13</i> Moisture Performance of Details, Part 2: Claddings, Flashings, Wall Penetrations, etc. 11:00am-12:30pm   <i>Seminar 20</i> Pressure Losses in Modern-Construction Air Duct Systems 1:30pm-3:00pm   <b>B</b>	<i>Seminar 27</i> HVAC&R Seminar 1 8:00am-9:30am   <b>A</b> <i>Seminar 29</i> Natural Ventilation: Modeling and Measurements Part 1, State of the Art in Prediction and Design 8:00am-9:30am   <i>Seminar 34</i> Exergy 101 for Beginners 9:45am-10:45am   <b>B</b>	<i>Seminar 35</i> HVAC&R Seminar II 9:45am-10:45am   <b>A</b> <i>Seminar 39</i> Ventilation and IAQ in Apartment Buildings 9:45am-10:45am   <i>Seminar 43</i> The ASHRAE Green Guide, 2nd Edition 11:00am-12:00pm   <b>B</b>	<i>Seminar 48</i> Climate Change: Modeling the Weather and Its Potential Impacts on Building Performance 8:00am-9:30am   <i>Seminar 49</i> Integrated Design Load Calculations 8:00am-9:30am   <b>A</b> <i>Forum 8</i> Naturally Ventilated Buildings: What Needs to Be Included to Design Them Properly? 9:45am-10:45am   <i>Forum 9</i> What Topics Should Be Included in a Credentialing Program in Sustainability 9:45am-10:45am   <b>B</b>	<i>Seminar 56</i> Emerging Issues in Environmental Health 11:00am-12:30pm   <i>Seminar 58</i> Issues Update: Regulating Climate Change and Greenhouse Gas Emissions 11:00am-12:30pm   <b>B</b> <i>Forum 11</i> Is Green Clean? IAQ and Energy Efficiency for LEED and Green Buildings 12:30pm-1:30pm			
<b>Operational Topics</b>	<i>Seminar 2</i> Emission Offsets and Reductions: Reducing Our Environmental Footprint 8:00am-9:30am   <i>Seminar 3</i> Emulators in Building Control: Developments and Experience 8:00am-9:30am	<i>Seminar 4</i> Finding the Funds for Good O&M: Success Stories, Part 1 8:00am-9:30am   <b>B</b> <i>Transactions Session 2</i> Automated Fault Detection and Diagnostics (FDD) 11:00am-12:30pm   <i>Seminar 10</i> Finding the Funds for Good O&M: Success Stories, Part 2 11:00am-12:30pm   <b>B</b>	<i>Forum 3</i> Can Resource Conservation Be Achieved Through the Use of Evaporative Heat Rejection Systems 11:00am-12:00pm	<i>Forum 4</i> Field Testing Chillers: What Are Your Expectations? 11:00am-12:00pm   <b>A</b>	<i>Seminar 60</i> The Energy Performance Buildings Directive in the EU: Implementation in Existing Building Stock 11:00am-12:30pm				
<b>Special Events</b>	Technical Plenary Speaker, Bernard Amadei, Founder Engineers Without Borders 9:45 AM - 10:45 AM ASHRAE Meeting Badge Required			Poster Session Presentation of 27 ASHRAE Technical Papers by Poster. 11:00 AM - 1:00 PM ASHRAE Meeting Badge Required					
<b>Refrigeration</b>			<i>Seminar 26</i> Food Freezing Technology 8:00am-9:30am   <b>B</b> <i>Seminar 31</i> Two-Phase Flow at Micro/Nano Scale 8:00am-9:30am   <b>A</b>	<i>Seminar 44</i> The History of System Chemistry 11:00am-12:00pm   <b>B</b>	<i>Seminar 51</i> Refrigeration System Operation Techniques for Energy Cost Reduction 8:00am-9:30am				
<b>Systems and Equipment</b>	<i>Seminar 11</i> Impact of Prefiltration and Filter Selection for Energy Savings and Reduced Maintenance Expenditures 11:00am-12:30pm   <i>Seminar 12</i> Ground Source Heat Pumps for Sustainability 11:00am-12:30pm   <i>Forum 1</i> Hydronic System Energy Performance Requirements for ASHRAE Standard 90.1 11:00am-12:00pm   <b>A</b>	<i>Forum 2</i> Refrigerant Emissions: An Opportunity to Update the Responsibility Use Guidelines 1:00pm-2:00pm   <i>Seminar 18</i> Heat Pump Sound and Acoustic Experiences 1:30pm-3:00pm   <i>Seminar 19</i> Modeling Stratified Room Air Distribution Systems with Energy Simulation Tools 1:30pm-3:00pm	<i>Seminar 24</i> Economic and Environmental Benefits of Turbine Inlet Cooling 8:00am-9:30am   <b>B</b> <i>Seminar 32</i> Back to Basics: Compressors, Part 2 9:45am-10:45am   <b>B</b> <i>Seminar 33</i> Case Studies, Part 1: Retrofits of Large Building HVAC Systems 9:45am-10:45am	<i>Seminar 36</i> Inlet Installation Effects on Air and Sound Performance of Propeller Fan 9:45am-10:45am   <i>Seminar 40</i> Design of Unitary Air Conditioners for California Efficiency Standards 11:00am-12:00pm   <i>Seminar 45</i> Variable Speed Pumping Systems 11:00am-12:00pm	<i>Seminar 46</i> Advances in Refrigerant to Air Heat Transfer 8:00am-9:30am   <i>Seminar 47</i> California Gold Rush: Cashing in on Sustainability with CHP in California 8:00am-9:30am   <i>Seminar 50</i> Pressure Independent Valves 8:00am-9:30am   <i>Seminar 53</i> Lubrication of Variable Speed Compressors 9:45am-10:45am   <b>A</b>	<i>Seminar 54</i> What's New Under the Sun? 9:45am-10:45am   <i>Seminar 55</i> Chiller Tower Control: Marketing Hype vs. Physics Basics 11:00am-12:30pm   <i>Forum 10</i> Experience with Coil Fouling, UV and Energy Savings in HVAC Systems 12:30pm-1:30pm			

**WEDNESDAY JUNE 27th**

**NEW!**

Wednesday's program is focused on 8 topics for in-depth presentations and discussions.

<p><b>COMMISSIONING</b></p> <p><i>Forum 14</i> What is Needed to Commission Air Distribution Systems for Small Commercial Buildings? 8:00am-9:00am  </p> <p><i>Seminar 63</i> Commissioning Sustainable Buildings 9:15am-10:45am  </p> <p><i>Forum 18</i> What Topics Should be Included in the Credentialing Program on Commissioning 11:00am-12:00pm  </p> <p><i>Seminar 78</i> Measurement and Verification for Retrocommissioning 12:15pm-1:45pm  </p> <p><b>DATA CENTER COOLING</b></p> <p><i>Transactions Session 6</i> High Density Cooling Update 8:00am-9:00am  </p> <p><i>Seminar 69</i> Utilizing Economizers in a Data Center 9:15am-10:45am  </p> <p><i>Seminar 71</i> Energy Efficient Controls for Data Centers 11:00am-12:00pm  </p> <p><i>Seminar 74</i> Electronics Cooling: Techniques and Applications 12:15pm-1:45pm  </p> <p><b>ENVIRONMENTAL HEALTH</b></p> <p><i>Forum 13</i> The Hot Potato, and Is It Glowing? 8:00am-9:00am  </p> <p><i>Transactions Session 7</i> Applications of Multizone Airflow and Contaminant Transport Modeling 9:15am-10:45am   <b>B</b></p> <p><i>Forum 17</i> What Can the Environmental Health Committee Do for You? 11:00am-12:00pm   <b>B</b></p> <p><i>Seminar 80</i> UVGI Installations in Government Buildings: Exploring the Knowns, Unknowns and Gaps Regarding Potential Benefits for Public Health, Employee Safety and Energy Efficiency 12:15pm-1:45pm  </p> <p><b>EXERGY</b></p> <p><i>Transactions Session 5</i> Exergy Efficient Systems and Applications for Sustainable Buildings 8:00am-9:00am  </p> <p><i>Seminar 65</i> Exergy 201: Use It Or Lose It Forever 9:15am-10:45am  </p> <p><i>Forum 15</i> Dollars and Senses of Exergy: How Exergy Analysis Can Help for Greener, Affordable and Sustainable Buildings 11:00am-12:00pm   <b>B</b></p> <p><i>Transactions Session 8</i> Exergy: A New Frontier in Green Building Simulation 12:15pm-1:45pm  </p>	<p><b>HEAT PUMPS</b></p> <p><i>Transactions Session 4</i> Absorption/Sorption Chillers, Heat Pumps, and Refrigeration Equipment Systems 8:00am-9:00am  </p> <p><i>Seminar 66</i> Heating with Forced Air Heat Pump Systems: Past, Present and Future 9:15am-10:45am  </p> <p><i>Forum 16</i> Energy Recovery Systems Save Natural Resources, So Why Aren't They Used More Often? 11:00am-12:00pm  </p> <p><i>Seminar 75</i> Emerging Technologies for Absorption/Sorption Systems 12:15pm-1:45pm  </p> <p><b>LABORATORY DESIGN</b></p> <p><i>Forum 12</i> Laboratory Fume Hood Performance Testing: Getting the Most From Your Investment 8:00am-9:00am  </p> <p><i>Seminar 67</i> Reducing Air Flow Rates in Labs: Balancing Energy Savings with Risk 9:15am-10:45am  </p> <p><i>Seminar 72</i> Lab Design with Low Flow Chemical Fume Hoods 11:00am-12:00pm   <b>A</b></p> <p><i>Seminar 77</i> Laboratory Noise Control: Designing Quieter Systems 12:15pm-1:45pm  </p> <p><b>PEAK DEMAND/THERMAL STORAGE SYSTEMS</b></p> <p><i>Seminar 61</i> Evaporative Cooling Strategies to Reduce Peak Electric Demand, Part 1 8:00am-9:00am   <b>A</b></p> <p><i>Seminar 64</i> Evaporative Cooling Strategies to Reduce Peak Electric Demand, Part 2 9:15am-10:45am   <b>A</b></p> <p><i>Seminar 73</i> Secondary Benefits of Thermal Energy Storage 11:00am-12:00pm  </p> <p><i>Seminar 76</i> Energy Performance of Thermal Energy Storage Systems 12:15pm-1:45pm  </p> <p><b>REFRIGERATION</b></p> <p><i>Seminar 62</i> Refrigeration Systems Using Natural Refrigerants 8:00am-9:00am  </p> <p><i>Seminar 68</i> Retrofit Technologies for Supermarket Refrigeration Systems and Display Cases 9:15am-10:45am  </p> <p><i>Seminar 70</i> Design Essentials for Refrigerated Storage Facilities 11:00am-12:00pm   <b>B</b></p> <p><i>Seminar 79</i> Multi Split Systems and Variable Refrigerant Flow 12:15pm-1:45pm  </p>
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<p>ASHRAE Learning Institute Courses</p> <p>Register for courses individually; they are not included with the meeting registration.</p>	<p><b>Saturday, June 23rd</b></p> <p>Professional Development Seminar: <i>The Commissioning Process in New &amp; Existing Buildings</i> 8am-3pm</p> <p>Short Courses: <i>Health Care Facilities - Best Practice HVAC Design Considerations and Criteria</i> 9am-12pm <i>Introduction to Thermal Energy Storage Systems for Air Conditioning</i> 12pm-3pm</p>	<p><b>Sunday, June 24th</b></p> <p>Short Courses: <i>Engineering Ethics: You be the Judge (New!)</i> 2:30pm-5:30pm <i>Introduction to Green Buildings and Sustainable Construction</i> 2:30pm-5:30pm</p>	<p><b>Monday, June 25th</b></p> <p>Short Courses: <i>Complying with ANSI/ASHRAE/IESNA Standard 90.1-2004 HVAC/Mechanical</i> 2:30pm-5:30pm <i>Natural Ventilation (New!)</i> 2:30pm-5:30pm</p>	<p><b>Tuesday, June 26th</b></p> <p>Short Course: <i>Health Care Facilities-Best Practice Applications of HVAC Systems</i> 2pm-5pm</p>
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