# Workshop Agenda

## PRE-MEETING—Tuesday, April 20

| 4:00–6:00 p.m. | Registration Begins |

## DAY 1—Wednesday, April 21

| 7:00 a.m. | Registration and Continental Breakfast |

| 8:00 a.m. | Welcome & Introduction  
James Brodrick, U.S. Department of Energy |

| 8:30 a.m. | World Status of SSL Manufacturing  
Update on manufacturing trends in Asia, Europe, and the U.S.  
Vrinda Bhandarkar, Strategies Unlimited |

| 9:15 a.m. | The Impact of Infrastructure on Global Manufacturing Decisions  
Challenges and decisions involved in running global manufacturing operations. How does infrastructure impact decisions?  
Jim Anderson, Philips Color Kinetics |

| 10:00 a.m. | Break |

| 10:30 a.m. | Invited Manufacturing R&D Presentations  
- Advanced Epi Tools for Gallium Nitride LED Devices  
  Nag Patibandla, Applied Materials Inc.  
- Roll-to-Roll Solution-Processable Small-Molecule OLEDs  
  Jie Liu, GE Global Research  
- Development of Advanced Manufacturing Methods for Warm-White LEDs for General Lighting  
  Anirudha Deshpande, GE Lumination  
- Automated Yield Management and Defect Source Analysis Inspection Tooling and Software for LED Manufacturing  
  Srini Vedula, KLA-Tencor Corporation |

| 12:00 p.m. | Lunch |
1:00 p.m. Invited Manufacturing R&D Presentations (continued)
   • Low Cost Illumination-Grade LEDs Enabled by Nitride Epitaxy on 150mm Silicon Substrates
     Michael Craven, Philips Lumileds Lighting Company, LLC
   • A Low-Cost Lithography Tool for High-Brightness LED Manufacturing
     Andy Hawryluk, Ultratech Inc.
   • Creation of a U.S. Phosphorescent OLED Lighting Panel Manufacturing Facility
     Mike Hack, Universal Display Corporation
   • Driving Down HB-LED Costs: Implementation of Process Simulation Tools and Temperature Control Methods for High Yield MOCVD Growth
     Bill Quinn, Veeco Instruments

2:30 p.m. Break

3:00 p.m. Panel 1: The Discipline of Design for Manufacturing
   How can industry improve the design of SSL products to make them more manufacturable? What is being done today to implement this discipline in SSL manufacturing, and how might this shift lead to cost reductions?
   Steve Bland, SB Consulting, Moderator
   Makarand Chipalkatti, OSRAM Sylvania
   Mark Hodapp, Philips Lumileds Lighting
   Paul Pickard, Cree
   Yuan-Sheng Tyan, TCE*OLED

4:30 p.m. DOE Funding Opportunities—How to Prepare a Comprehensive Proposal
   Simple, straightforward guidance on how to assemble and deliver a comprehensive proposal for DOE funding.
   Brian Dotson, National Energy Technology Laboratory

5:00–7:00 p.m. Evening Reception/Poster Session
   Sponsored by the Next Generation Lighting Industry Alliance and Philips Lumileds Lighting
   Remarks: Chuck Reed, Mayor of San Jose
   Keith Cook, Philips Lighting, Alliance Chair
## DAY 2—Thursday, April 22

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>7:00 a.m.</td>
<td><strong>Registration and Continental Breakfast</strong></td>
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<td>8:00 a.m.</td>
<td><strong>Panel 2: How Will Luminaire Manufacturing Change with SSL?</strong></td>
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<td>What will happen to the present infrastructure? What are the implications of moving to a</td>
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<td>more complex, integrated system? What kinds of work will help ease this transition? What</td>
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<td>are the special needs of smaller luminaire makers?</td>
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<td>- Morgan Pattison, SSLS, Inc., Moderator</td>
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<td>- Dennis Bradley, GE</td>
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<td>- Eric Haugaard, Ruud Lighting</td>
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<td>- Peter Ngai, Acuity Brands Lighting</td>
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<td>- Kevin Willmorth, Lumenique</td>
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<td>9:30 a.m.</td>
<td><strong>Review of Proposed Updates to the SSL Manufacturing R&amp;D Roadmap</strong></td>
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<td>A preview of proposed updates to the 2009 DOE SSL Manufacturing R&amp;D Roadmap, including</td>
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<td>feedback from the March 2010 Roundtable discussions.</td>
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<td>- Fred Welsh, Radcliffe Advisors</td>
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<td>10:00 a.m.</td>
<td><strong>Break</strong></td>
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<td>10:30 a.m.</td>
<td><strong>LED/OLED Track Session I</strong></td>
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<td>Separate track sessions explore key manufacturing issues.</td>
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<td>12:00 p.m.</td>
<td><strong>Lunch</strong></td>
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<tr>
<td>1:00 p.m.</td>
<td><strong>LED/OLED Track Session II</strong></td>
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<td>Separate track sessions explore key manufacturing issues.</td>
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<td>2:30 p.m.</td>
<td><strong>Break</strong></td>
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<td>3:00 p.m.</td>
<td><strong>Panel 3: U.S. Manufacturing Equipment and Infrastructure Needs</strong></td>
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<td>What steps can we take to foster a significant role in SSL manufacturing in the U.S.?</td>
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<td>Do we have the right people with the right training? What can industry do to develop the</td>
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<td>right infrastructure? What is the proper level of automation?</td>
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<td>- James Brodrick, U.S. Department of Energy, Moderator</td>
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<td>- Chuck Berghoff, OptoElectronix</td>
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<td>- Tom Morrow, SEMI</td>
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<td>- Mike Peanasky, Bridgelux</td>
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<td>- Bill Quinn, Veeco Instruments</td>
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<td>- Gopalan Rajeswaran, Moser Baer</td>
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<td>4:30 p.m.</td>
<td><strong>Wrap-Up and Adjourn</strong></td>
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