



Labs21 High Performance, Low-Energy Design Course
Wednesday, June 23, 2004
9:00 a.m. – 5:00 p.m.

Help lay the foundation for a new generation of laboratories!

Join us for a dynamic one-day course that introduces sustainable design strategies for new and existing laboratories. Topics include:

- The architecture and engineering of high performance labs
- The energy efficient design process
- Commissioning
- Green design, emerging rating systems, and benchmarking
- Laboratory exhaust systems
- Case studies and tools
and much more

Taught by experienced laboratory designers, energy managers, and facilities professionals, the course is hosted by local organizations around the country. Course size is limited, so register early.

The course was designed and developed by Labs21, a voluntary partnership program sponsored by the U.S. Environmental Protection Agency and the U.S. Department of Energy to improve the environmental performance of our nation's laboratories.

For more information, including the full course schedule and details on registration, please visit <http://www.labs21century.gov/training/designcourse/introductory.htm>.

SCHEDULE – Wednesday, June 23

- 9:00 - 9:15 **What is a Laboratory for the Twenty-First Century?**
Session #1 Paul Mathew, Lawrence Berkeley National Laboratory
- 9:15 - 9:45 **Video**
Labs21: Improving the Performance of Our Nation's Laboratories
- 9:45 - 10:15 **Lawrence Berkeley National Laboratory: A Case Study**
Session #2 Dale Sartor, Lawrence Berkeley National Laboratory
- 10:15 - 11:00 **Introduction to the Architecture of High Performance Labs**
Session #3 Paul Mathew, Lawrence Berkeley National Laboratory
- 11:00 - 11:15 **Break**
- 11:15 - 12:00 **Introduction to the Engineering of High Performance Labs**
Session #4 Dale Sartor, Lawrence Berkeley National Laboratory
- 12:00 - 12:45 **Supply and Distribution**
Session #5 Dale Sartor, Lawrence Berkeley National Laboratory
- 12:45 - 1:30 **Lunch**



- 1:30 - 2:15
Session #6 **Exhaust Systems and Devices**
Geoffrey Bell, Lawrence Berkeley National Laboratory
- 2:15 - 2:45
Session #7 **Lighting, Daylighting, and Lighting Controls**
Paul Mathew, Lawrence Berkeley National Laboratory
- 2:45 - 3:15
Session #8 **Controls and Commissioning**
Geoffrey Bell, Lawrence Berkeley National Laboratory
- 3:15 - 3:30 **Break**
- 3:30 - 4:15
Session #9 **Green Design, Emerging Rating Systems, and Benchmarking**
Paul Mathew, Lawrence Berkeley National Laboratory
- 4:15 - 4:45
Session #10 **Case Studies**
Paul Mathew, Lawrence Berkeley National Laboratory
- 4:45 - 5:00
Session #11 **Resources, Tools, and Summary**
Everyone