



BUILDING TECHNOLOGY & URBAN SYSTEMS ENERGY TECHNOLOGIES AREA



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Welcome to the inaugural edition of the Building Technology & Urban Systems Division (BTUS) newsletter.

It is our pleasure to share with you our incredible research. Our work aims to reduce costs to operate buildings while improving energy efficiency and the health, comfort and safety of occupants, along with integrating buildings seamlessly with our changing electric grid.

Your feedback is very important. Please do get in touch directly with any of the researchers mentioned below, or myself, if you would like additional information on our important work.

Sincerely,

Mary Ann Piette, Division Director, Building Technology and Urban Systems Division
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Leveraging Data for Big Savings

We are working with the Department of Energy (DOE) to harness automated "smart meter" data with advanced analytics to save time and money.

American consumers and utilities spend billions on demand-side management programs. Accessing that data represents a unique opportunity to leverage analytics-based measurement and verification to improve energy efficiency.



[Learn more about broad applications to increase energy efficiency](#)

Massive Savings in New York City



With advanced light fixtures and shades installed on one floor of a high-rise occupied by Goldman Sachs, energy use along a significant portion of the floor dropped nearly 80 percent. It's part of an ongoing effort to test the latest energy technology in commercial buildings.

[Find out how these great savings were achieved](#)



"Expert Suitcase" Cuts Power Bills 10%

The knowledge and expertise of a seasoned energy efficiency professional has been packed into a high-tech suitcase.

The "Sensor Suitcase" is a portable case that contains easy-to-use sensors and other equipment that make it possible for anyone to identify energy-saving opportunities in small commercial buildings. The automated and reusable system combines hardware and software in one package so its users can identify cost-effective measures that save small commercial buildings about 10 percent on their energy bills.

[Read More About this Money-Saving Technology at newscenter.lbl.gov](#)

[Watch Sensor Suitcase: A Portable System for Increasing Building Energy Efficiency](#)



Not All Cool Pavements Created Equal

Reflective pavements designed to cool cities can have unexpected drawbacks, Berkeley Lab researchers have discovered. The energy and emission penalties that stem from making some cool pavements can exceed the savings in buildings.

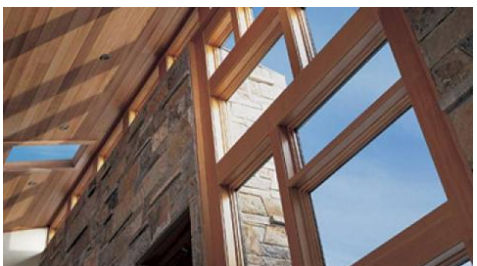
[Read about the surprising findings](#)



Ruby Red Roofs Stay as Cool as White

BTUS researchers have found that fluorescent red pigments can stay as cool as white, a new concept they tested by coloring roof coatings with synthetic ruby powder.

[What it means for cooler roofs](#)



Windows That Save Billions

Berkeley Lab has partnered with industry for 40 years to pioneer windows that save more energy and lower electric bills. Low-emissivity coatings are a key part of this progress.

[How 'low-E' coatings came to be](#)



Success Story: Plugging Building Leaks

Many residential and commercial buildings leak air through air ducts, but getting a tight seal can be challenging. Berkeley Lab's Mark Modera developed a way to find and fix costly energy losses.

[Learn more about AeroSeal](#)

Awards & Honors



R&D 100 Awards for ETA Projects

The Cool Roof Time Machine was one of five Berkeley Lab projects that won honors at *R&D Magazine's* global science and technology competition.

[Read more about the winning projects](#)

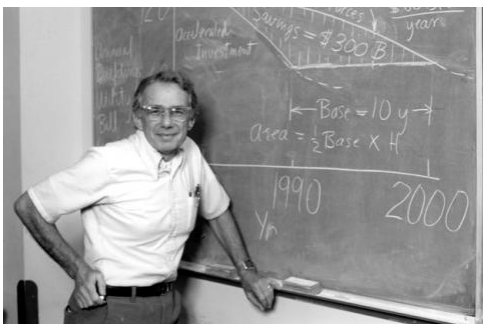


FLEXLAB® Celebrates Anniversary

The Department of Energy's FLEXLAB® is celebrating its second anniversary year. As one of the world's most advanced facilities for studying the energy performance of building systems, FLEXLAB® was recently featured in "Building Below Zero," a look at energy-efficient buildings.

[Watch video at PBS](#) | [See FLEXLAB highlights](#) | [Visit flexlab.lbl.gov](#)

Obituary



Remembering Art Rosenfeld

Known as the "godfather" of energy efficiency, Rosenfeld showed the world how to save billions of dollars and founded the Center for Building Science, the forerunner to BTUS and the Energy Technologies Area at Berkeley Lab. He recently passed away at age 90.

[His legacy of leadership](#)

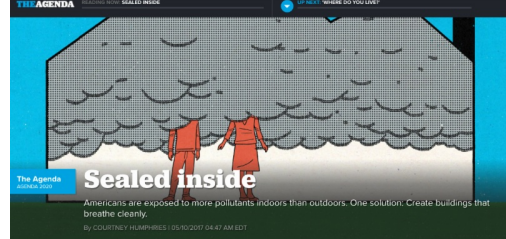
BTUS in the News

[Daily Commercial News](#) highlighted effort co-led by **Jessica Granderson** to create "sensor in a suitcase" to measure building efficiency.

[Energylivenews.com](#) quoted **Max Wei** and **Brett Singer**

in an article about achieving zero net energy (ZNE) in California's new homes by 2020, and researching how acceptable indoor air quality can be maintained in ZNE homes that use natural gas.

[Politico](#) quoted **Bill Fisk** in a story about indoor air pollution. Fisk has found that people sitting in a room with moderately high carbon dioxide levels performed worse on tests of decision-making performance.



New Lab research into cool pavements was highlighted in [American Infrastructure](#).

[Take Two](#) also interviewed **Ronnen Levinson** about urban heat island mitigation in a story about a cool pavement pilot program in Southern California.

A [KGO-TV ABC Bay Area story](#) looked at a side effect of low-e windows and included an interview with **Robert Hart**.

[Dozens of news sources](#) noted the passing of **Art Rosenfeld**.

[Building Technology & Urban Systems](#) | [Energy Technologies Area](#) | [Berkeley Lab](#)

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Lawrence Berkeley National Lab (Berkeley Lab) is located in the Berkeley Hills near Berkeley, California and conducts scientific research on behalf of the United States Department of Energy (DOE). It is managed and operated by the University of California. The laboratory overlooks the University of California, Berkeley.

Berkeley Lab addresses the world's most urgent scientific challenges by advancing sustainable energy, protecting human health, creating new materials, and revealing the origin and fate of the universe. Founded in 1931, Berkeley Lab's scientific expertise has been recognized with 13 Nobel prizes. The University of California manages Berkeley Lab for the U.S. Department of Energy's Office of Science. For more information, visit www.lbl.gov.

DOE's Office of Science is the single largest supporter of basic research in the physical sciences in the United States, and is working to address some of the most pressing challenges of our time. For more information, see science.energy.gov.
