

A bridge to better batteries

July 7 2015, by Julie Chao



A new website, energystorage.lbl.gov, can help connect companies to Berkeley Lab's battery research resources.

A major automaker came to Lawrence Berkeley National Laboratory recently wanting to better understand battery degradation. After many months of intense collaborative research with a Berkeley Lab battery scientist, they gleaned some important insights into the conditions that

may lead to battery failure, and even published a paper on their findings.

Another large car [company](#) wanted to find new materials that would yield longer-lasting vehicle batteries. An ongoing scientific investigation with a Berkeley Lab [battery](#) researcher may lead to a next-generation battery.

Until a couple years ago, such public-private collaborations were few and far between. The main reason was that national labs were somewhat difficult to work with—it was hard to make contact with the right person, and once contact was made, it could take many months to hammer out all the paperwork for any joint research. The timeline was onerous for most companies and a deal-breaker for startups.

But now, as it seeks to accelerate innovation leading to a breakthrough battery technology, Berkeley Lab's battery group has made industry engagement a top priority. "It's possible our lab, working alone, will make a spectacular discovery enabling a cost-effective electric vehicle that can go 300 miles on a single charge," said battery scientist Venkat Srinivasan. "But that discovery in the Lab will translate to real-world impact much faster only if we work with materials companies, battery companies, and car companies, and understand the challenges they face."

The [energy storage](#) researchers at Berkeley Lab—including scientists working on vehicle batteries, grid storage batteries, and reversible fuel cells—now offers several ways for companies to collaborate with its scientists or use its world-class scientific facilities, including cutting-edge instrumentation for high-resolution imaging of materials. The mechanisms are detailed in a new website, energystorage.lbl.gov.

"Berkeley Lab's reputation is that we do fundamental research," Srinivasan said. "But in fact, we do a variety of things with industry, including helping them solve problems that have commercial value. We

hope the new website makes it crystal clear how companies can work with us."

The website includes information on Berkeley Lab's areas of expertise, including synthesis of materials, advanced characterization techniques, mathematical modeling, and fabrication of small test cells. As another part of the industry outreach, Berkeley Lab scientists will hold a series of workshops for battery designers next year.

Of particular interest to startup battery companies may be a program supported by the Department of Energy's Tech-to-Market initiative. Startups would be able to work with Berkeley Lab scientists on a simple proof-of-concept experiment without incurring any cost and with streamlined paperwork. "They can get in the door in just a couple weeks," said Srinivasan, who is also deputy director of the Joint Center for Energy Storage Research, a DOE multi-partner Energy Innovation Hub announced in 2012.

Three years ago, Berkeley Lab helped form CalCharge in order to create an "ecosystem" of energy storage companies in California. As CalCharge's membership continues to grow with new companies and research institutions joining, Srinivasan says Berkeley Lab's battery collaborations are not limited to California. "As a national lab, we're not focused on one state. We want to reach companies on the East Coast, the Midwest, and elsewhere," he said.

Provided by Lawrence Berkeley National Laboratory

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