Low Cost Fuel Cell Project Wins Clean Tech Innovation Prize Awarded by UC Berkeley's Center for Entrepreneurship & Technology

A low cost fuel cell project from Lawrence Berkeley National Laboratory emerged as the winner of a clean technology innovation competition on Tuesday, April 8 at UC Berkeley. A panel of judges representing industry and investment firms chose Low Cost Fuel Cells ahead of second-placed Lagrangian Sensors and finalists Better Battery Capacity and Banyan Energy. The first Venture Lab Clean Tech Innovation Prize was organized by the university's Center for Entrepreneurship & Technology, which awarded a total prize of $20,000 to the four finalists. The goal of the competition was to recognize and bring together UC Berkeley engineers and scientists whose work has commercial potential in the field of clean technology.

Berkeley, CA (PRWEB) April 22, 2008 -- Out of a field of 16 semi-finalists, a low cost fuel cell project from Lawrence Berkeley National Laboratory emerged as the winner of a clean technology innovation competition on Tuesday, April 8 at UC Berkeley. A panel of judges representing industry and investment firms chose Low Cost Fuel Cells ahead of second-placed Lagrangian Sensors and finalists Better Battery Capacity and Banyan Energy.

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The Winner: Low Cost Fuel Cells
More than 2 billion people worldwide have no access to electricity, while many others have only intermittent access. When electricity is not available, many people burn kerosene to provide light. Burning kerosene, though, is extremely inefficiently and produces incomplete combustion products that are hazardous to human health. Researchers in the Materials Sciences Division of Lawrence Berkeley National Laboratory are developing a small, rugged, low-cost fuel cell that can convert fossil fuels into electricity with little or no pollution. A team of these researchers Craig Jacobson, Tal Sholklapper, Mike Tucker, and Grace Lau are looking for partners to commercialize a device that uses this power to run an efficient LED light while using 80 -90 % less fuel than existing lamps.

Runner-Up: Lagrangian Sensors
The Lagrangian Sensor project, led by Berkeley Professor Alexandre Bayen and Ph.D. student Andrew Tinka, develops floating sensor packages for deployment in river and estuarine environments. As the sensor drifts through the water, it can gather data about the river flow and various environmental factors (salt concentration, particulate contamination, etc). Because the sensor moves with the water stream, the data it gathers offers a different perspective on the system that is more useful for some applications than traditional stationary sensing. The project
also develops the data processing algorithms that are needed to incorporate this "moving" data into a global view of the system. This is a flexible, affordable, reconfigurable technology that can improve sensing and monitoring processes for river and delta systems around the world. Sustainable resource management requires high-quality, relevant data, and this mobile sensor approach can help meet that need.

As part of the prize, the Kauffman Foundation awarded Lagrangian Sensors with a $5,000 travel scholarship to attend Copenmind -- a global university-industry conference in the space of clean tech--in Copenhagen, Denmark, the site of the 2009 revisit of the Kyoto Protocol and Copenmind is part of the lead-up to this historic gathering.

Finalist: Better Battery Capacity
Lithium ion batteries are currently under consideration for the next generation of hybrid and plug-in hybrid electric vehicles, due to their potential for increased energy and power densities compared to currently used nickel metal hydride systems. Safety and cost concerns, however, are impediments to widespread adoption of lithium ion batteries for vehicular applications. Depending upon cell design, up to 60% of the cost of the battery derives from the cathode. To lower cost, it is critical to decrease the amount of cobalt (currently at $50/lb) in the cathode, preferably without compromising performance. The team, led by James Wilcox and Marca Doeff of Lawrence Berkeley National Laboratory, has found that cells containing a partially aluminum-substituted material, deliver approximately ten times the capacity at the high discharge rates needed for operation of plug-in hybrid electric vehicles, compared to the parent compound. This material is expected to result in a substantial cost savings. In addition, the incorporation of aluminum into the structure is expected to result in improved thermal stability and protects against degradation due to over-charge, important safety features for vehicular batteries.

Finalist: Banyan Energy, Inc.
Banyan Energy, Inc. is focused on making power production from sunlight cheaper and more scalable. Today's photovoltaic (PV) technology is too expensive to compete with conventional energy. The PV industry's production capacity is also several orders of magnitude away from making a meaningful contribution to the global energy system. Banyan's product line will address this problem sequentially. The initial focus is on today's PV industry dominated by silicon solar panels. Banyan aims to cut solar panel costs and increase production throughput for companies across the value chain - including solar cell makers, panel makers, and production equipment providers. The long term focus is to get solar power competitive with conventional power with a solution that can rapidly scale. Banyan addresses the key problem of high manufacturing costs using compact concentration optics: to reduce area costs while preserving the higher efficiencies of existing, well-understood, high-quality solar cells.

About the Center for Entrepreneurship and Technology
The mission of UC Berkeley's Center for Entrepreneurship & Technology is to equip Berkeley students with the skills needed to innovate, lead, and commercialize technology in the global economy. Directed by Professor Ikhlaq Sidhu, CET achieves its mission through a combination of teaching by industry leaders, research programs, and hands-on events, such as the Venture Lab Clean

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