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A thoughtful lighting plan and creative meshing of natural and artificial illumination at the UC Santa Cruz Science and Engineering Library has been recognized for its efficiency and creativity.

Engineering savings

UCSC Libraries

New lighting at UC Santa Cruz Science and Engineering library expected to save \$51,700 a year

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SANTA CRUZ — A new lighting system at the UC Santa Cruz Science and Engineering Library, projected to save \$51,700 a year by cutting energy use, has won yet another award.

The project, which cost \$259,000, was named the "Wireless Innovation Project of the Year" by the EnOcean Alliance, a 250-member consortium of companies around the world using wireless technology to harvest energy from the sun and wind.

In August, UCSC received the "Best Practice Lighting Award" at the 2011 California Higher Education Sustainability Conference.

UCSC has a dozen more energy conservation projects slated for completion this year.

Campus staff was concerned about energy waste at the science library because the lights were on nearly 20 hours a day. An energy audit found building occupancy varied greatly rather than following a set pattern.

The solution involved electrical devices from Leviton of Melville, N.Y., specifically LevNet RF radio frequency products.

The Leviton receivers were paired with wireless sensors that control "T8" light fixtures, which replaced inefficient "T12" fixtures. Occupancy sensors turn on lights when someone is in the building. Other sensors control fixtures next to windows, taking advantage of daylight.

The campus obtained a rebate incentive for



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Large windows allow maximal natural light in the stairwells of the UC Santa Cruz Science and Engineering Library.

\$103,000 from PG&E, which lowered the cost to \$146,000, allowing for a payback in three years based on a rate of 12 cents per kilowatt hour.

UCSC participates in a customized incentive program for saving energy, the Higher Education Partnership, which awards 24 cents per kilowatt hour saved, up to 50 percent of the project cost.

The energy savings calculation is based on studies of the lighting demand before and after the project.

"We have not yet evaluated actual metered savings as we had issues with the building electric meter and it is in for repair," said campus energy manager Patrick Testoni.

He said another project at the science library aims to save energy by upgrading the heating ventilating and air conditioning system.

"It is exciting to see our LevNet RF wireless lighting control be recognized for helping UCSC achieve their energy reduction goals," said Leviton vice president Richard Westfall.