Nanotech could make solar energy as easy and cheap as growing grass

September 17 2007

Scientists are working to produce cheap, sustainable solar energy by imitating nature. Nanotechnology researchers like California Institute of Technology professor Nate Lewis are exploring nanoscale materials that mimic the architecture of grass and photosynthesis to capture and store the sun's energy.

A new podcast looks at how Dr. Lewis and his CalTech research team are trying to imbed tiny nanoparticles into simple, inexpensive everyday products like house paint and roof tiles to revolutionize the way solar energy is produced.

"More energy from the sun hits the earth in an hour than all the energy consumed by human beings on our planet in an entire year. So, if we are going to find an efficient, environmentally-friendly substitute for fossil fuels, it makes sense to exploit the sun," says Dr. Lewis. "Nanotechnology offers us a way, in principle, to make very cheap materials—like the paint you buy at Home Depot—act as solar cells and batteries."

Ordinary-looking, nano-enabled house paint, roofs or shingles could replace today's black, glasslike photovoltaic cells which are usually composed of crystalline silicon and are unwieldy, unsightly and very expensive to manufacture. In addition to homes, this innovative technology someday could power cell phones, laptops and even automobiles.

Listen to Dr. Lewis talk about his research in the latest episode of an exciting new series of podcasts, Trips to the NanoFrontier. Produced by the Wilson Center's Project on Emerging Nanotechnologies, these podcasts are available online at www.penmedia.org/podcast , or directly from Apple's iTunes music store.

Source: Project on Emerging Nanotechnologies